

BOSTON MEDICAL LIBRARY 8 THE FENWAY









The Journal

1693-29

of the

South Carolina Medical Association

VOL. XXV.

GREENVILLE, S. C., JANUARY, 1929

NO. 1

CONTENTS

EL	DITORIAL DEPARTMENT:	
	The Charleston Meeting, May 7, 8 and 9	293
	Columbia Society Holds Great Meeting	293
	Pediatric Society Meeting	294
ORIGINAL ARTICLES:		
	Post Partum Care, by R. E. Seibels, M. D., Columbia, S. C.	295
	The Sedimentation Test, by F. G. Johnson, M. D., and W. G.	
	Gamble, Jr., Medical College, State of S. C.	300
EYE, EAR, NOSE AND THROAT DEPARTMENT		304
WOMAN'S AUXILIARY		306
NEWS ITEMS		307
SOCIETY REPORTS		309

Remember! When tre

CALCREOSE offers the full expectorant action of creosote in a form agreeable to the patient.

Each 4 gr. tablet contains 2 grs. of creosote combined with calcium hydroxide.

when treating stubborn coughs you have available

Meeting the demand for a cough syrup containing Calcreose is the new COMPOUND SYRUP OF CALCREOSE ... a tasty, effective remedy for minor respiratory affections.

Each fluid ounce represents Calcreose Solution, 160 minims (equivalent to 10 minims of pure creosote); Alcohol, 24 minims; Chloroform, approximately 3 minims; Wild Cherry Bark, 20 grains; Peppermint, Aromatics and Syrup q.s. Samples of Tablets and Syrup to Physicians on Request.

MALTBIE CHEMICAL COMPANY



Branner's Sanitarium

A modern neuropsychiatric hospital with special laboratory facilities for the study and treatment of early cases: Also a department for the treatment of drug and alcoholic addictions.

The Sanitarium is located on the Marietta Electric Car Line ten miles from the center of Atlanta, near Smyrna, Ga. The grounds comprise 80 acres. The buildings are steam heated, electrically lighted, and many rooms have private baths.

Address communications to Brawner's Sanitarium, 79 Forest Ave., Atlanta, Ga.

DR. JAS. N. BRAWNER, Medical Director. DR. ALBERT F. BRAWNER, Resident Physician.

Waverley Sanitarium, Inc.

Founded in 1914 by DR. J. W. BABCOCK, Columbia, S. C.

A hospital for the diagnosis and treatment of neuro-psychiatric diseases.

A department for the care and treatment of drug and alcoholic habitues.

A home for senile and convalescent patients.

Especial care given pellagrins.

E. S. Valentine, M. D. Medical Director

Box 388 Columbia, S. C. Mrs. J. W. Babcock Superintendent



WAR 2

LIBRARY

Completely and Modernly Equipped

GREENVILLE, S. C.

for the care of patients with operative or other diseases of the

Eye, Ear, Nose and Throat

Under the personal direction of

DR. J. W. JERVEY

The Iournal

2697

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act March 3, 1879. Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A. HINES, M. D., F. A. C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston. S. C.

PEDIATRICS R. M. POLLITZER, M. D., Greenville, S. C.

OBSTETRICS AND GYNECOLOGY R. E. SEIBELS, M. D., Columbia, S. C. UROLOGY

W. B. LYLES, M. D., Spartanburg, S. C. ROENTGENOLOGY

T. A. PITTS, M. D., Columbia, S. C.

PATHOLOGY AND BACTERIOLOGY

F. M. ROUTH, M. D., Columbia, S. C.

SURGERY

J. S. RHAME, M. D., F. A. C. S., Charleston, S. C EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY

J. RICHARD ALLISON, M. D., Columbia, S. C. GASTRO-ENTEROLOGY AND PROCTOLOGY

W. T. BROCKMAN, M. D., Greer, S. C.

NERVOUS AND MENTAL DISEASES

E. L. HORGER, M. D., State Hospital, Columbia, S. C. MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

THE CHARLESTON MEETING, MAY, 7, 8 AND o

Notice has already been mailed to the members of the Association, calling attention to the change of the date of the annual meeting from April to May and calling for titles of papers to be presented on the program. The Scientific Committee decided to limit the papers to twenty this year owing to the plans for holding an especially attractive series of clinics. This will be an innovation for our society but the idea has been carried out in a few other States very successfully. other words advantage will be taken of the very large clinical material in Charleston by virtue of the Medical College, Roper Hospital, and other hospitals being located there. The rules of the Scientific Committee require that a very brief abstract of all the papers to be presented shall be in the hands of the Secretary thirty days before the annual meet-

ing. Titles should be sent in, however, much earlier than this in order that a general idea may be had as to the proper grouping of papers. The Francis Marion Hotel has been selected as the Head-Quarters Hotel of the Association during the meeting but several other first class hotels will be available. We have the assurance that rates will be satisfactory. Dr. Kenneth M. Lynch, of Charleston, is the General Chairman of all Committees in charge of the arrangements for the meeting and communications may be addressed to him at any time.

COLUMBIA SOCIETY HOLDS GREAT MEETING

The Secretary-Editor attended the meeting of the Columbia Medical Society on the evening of January 4, 1929. Under the Presidency of Dr. E. W. Barron and the skillful assistance of Dr. O. B. Mayer, Secretary, this

Society starts the new year with great promise. In looking around the hall we noted about sixty men present. A large majority of these were young men most of whom have had the very finest medical training this country affords. We recall days of old when no young doctor essayed to get on his feet at a medical society and speak in the presence of the gray haired fathers of medicine except on the very rarest of occasions. It is not so now fortunately. The young doctor coming out of a class A school represents the highest type of education of any professional man in the world. He is perfectly at home in the atmosphere of learned Fellows and good speakers. If he has something to say he says it and it is gratifying to note the acclaim if he presents something worthwhile. At the Columbia meeting, for instance, Dr. R. G. Doughty, presented two cases of stab wounds of the heart, he had been called to operate upon. One of these cases has recovered and was presented to the Society. The other case died but the doctor presented graphically the post mortem report. When it is considered that the greatest surgeons in the world have seen but few cases and the mortality discouraging it is most pleasing that a young South Carolina surgeon should have such success. Then too, Dr. Watson Talbert, another young Columbia physician was associated with Dr. Doughty and was given credit for his remarkable skill in handling the pre operative and post operative details. He has had the extraordinary experience of seeing in his service four cases of wounds of the heart. Some of the world's most prominent surgeons have only seen six cases each.

The invited guest of the evening, Dr. H. H. Schoenfield, of Washington, D. C., presented a

most timely subject, 'The Use of the X-Ray Man as a Consultant to the Surgeon.' The Columbia Medical Society meets in the attractive Medical Building where they have a good auditorium, a creditable library, and facilities for presenting slides, moving pictures, etc. The building is located in the heart of the city readily accessible to anybody.

PEDIATRIC SOCIETY MEETING

Elsewhere in this issue will be found a resume of the proceedings of the annual meeting of the South Carolina Pediatric Society held at Columbia, January 1, 1929, under the Presidency of Dr. C. W. Bailey, of Spartanburg. This Society now numbers about thirty members and is growing in importance and usefullness. The new Constitution and By-Laws provides that any physician in good standing in the South Carolina Medical Association interested in Pediatrics may become a member. It is to be clearly understood that the South Carolina Pediatric Society does not intend to narrow itself down to a Society purely of specialists. At the present time a very large number of general practitioners throughout State must necessarily give a great deal of attention to the children of the familes in which they practice. Resolutions were adopted at the Columbia meeting requesting their consideration of membership in the Pediatric Society. The dues are only two dollars and this fund provides the dinner at the annual meeting. There are two meetings each year, one of which is held at the time of the meeting of the State Medical Association. Applications for membership may be sent to Dr. R. M. Pollitzer, Secretary, Greenville, S. C.



ORIGINAL ARTICLES

POST PARTUM CARE*

By R. E. Seibels, M. D., Columbia, S. C.

The immediate and later care of the mother and infant are subjects seldom presented in scientific papers, and yet they form the most important phases in the reduction of infant and maternal morbidity and mortality with which we have to deal. Particularly is this true where the delivery has taken place at home, and especially is it important in the rural communities where the care of the two patients falls largely into the hands of the voluntary attendant. This attendant is only too often ignorant and inefficient and yet possessed of all the therapeutic courage of those who do not know. The infant is anointed with various concoctions, the least harmful of which is vaseline, and so on through the various home remedies until even axle grease is used; and not to mention the various teas that are forced down its unwilling throat, is to open up a fertile field indeed. The mother too often is drenched with different nauseous mixtures, denied fresh air, nor permitted a cleansing bath "for fear of catching cold in her womb."

It is generally difficult for the physician to avail himself of any more skilled services than those mentioned above, nor has he the time to give very much of his personal attention to the details of the immediate care. However, it is possible for him to correct many of the evils that exist by taking pains to educate both the patient and the nurse in the rudiments of post partum attention.

Immediately after delivery, the baby should be oiled thoroughly with some bland oil—sweet oil is preferable. It should be warmly wrapped and not bathed for at least six to eight hours, thus giving the circulation and respiration full time to become established. If it does not breathe promptly after the birth, no strenuous efforts should be made

*Read before the South Carolina Medical Association, Columbia, S. C., April 19, 1928.

as the carbon-dioxide in its blood is the best stimulation to the respiration which it is possible to obtain to bring about spontaneous respiration. Holding the baby up by its heels and gently stroking the upper trachea and larynx toward the mouth will often cause the baby to empty out a surprisingly large amount of fluid; mouth to mouth insufflation and immersion in cold water only too frequently set up a pneumonia which proves fatal. The less the baby is handled for the first forty-eight hours following its birth. the better it gets along. It is well to put it to the breast every six hours for a minute or two on each side to stimulate the flow of milk — and reflexly to stimulate contractions of the uterus. After the milk has established it has been our custom to keep the baby strictly on the four hour interval; this is almost impossible to attain except under hospital conditions, as the usual custom is to put the baby to breast whenever it cries, and let it remain there as long as it will. Where the four hour interval can be established, the baby's digestion is not impaired, the stomach is completely emptied before any other food is put in and the mother is allowed to get much needed rest; the value of this method is shown by the fact that babies gain more regularly and more rapidly on this schedule, colic is almost unknown, and we have had many mothers to nurse successfully a second baby where, on the shorter interval, artificial feeding had to be resorted to in the early months.

Drugs of any sort are seldom required by the nursing baby and castor oil should be used only externally, as good maternal milk contains all the elements necessary for the baby's growth and development. Warm water that has been boiled should be given the baby twice a day, between nursings. The family physician should insist upon seeing the baby at the end of a month and if any umbilical hernia exists, it can be corrected by the application of a button somewhat larger than

the opening, which is applied firmly to the umbilicus and held in place by adhesive strips—this simple apparatus will cure the majority of herniae, in about three months.

In difficult deliveries and especially in breech deliveries, the occurrences of cerebral hemorrhage is not rare—the mechanism of its occurrence is said to be due to pressure on the cord with a sudden rise in blood pressure and rupture of one of the smaller vessels on the surface of the brain, and is evidenced by difficulty in establishing respirations and within a few days irregular respirations with a peculiar whining cry and possibly the development of weakness or paralysis in the extremities, and refusal to nurse. The treatment of this is complete rest for the baby, and feeding through a medicine dropper; and upon the recognition of a cerebral hemorrhage, repeat lumbar-puncture every twelve hours until the spinal fluid is free of blood and the other evidences of intra-cranial pressure are abated. If the paralysis remains when the baby is one month old, a competent orthopedist should be consulted in order that a proper apparatus may be devised to prevent deformity and atrophy.

The baby's mouth often undergoes severe treatment in the attempt to keep it "clean" and often the result of this attempt is warded only with irritation. A piece of cotton wrapped around the finger and dipped in a saturated solution of boric acid may be gently rubbed across the gums and the angles of the mouth once a day and will do no harm. It is hardly worth while to mention the need of immediate care of the baby's eyes at birth. The use of Silver Nitrate 1% or of Argyrol 20% is so frequent as to be the routine in the hands of all careful physicians. It has been found that Silver Nitrate 1% is the best routine solution to use as the Argyrol tends to evaporate and grow stronger and often causes irritation that may lead one to suspect an infection. A few drops of castor oil in the eyes when they have been irritated by the argyrol usually brings prompt relief.

The quantity of attention that the mother receives after delivery often is the determining factor in her future health. So much can be done that is actually harmful, and many things

can be left undone, the neglect of which may cause temporary or permanent invalidism. Again where trained care is not available the physician must instruct the attendant in what to do, and even more important, what not to do.

Rest

Rest is one of the most important features of the care of the patient immediately after delivery. This means protection from visiting relatives and friends and their well-meaning and often misdirected efforts toward entertainment and congratulations. If possible, limit the visitors to one or two members of the immediate family and let their visits be short: best of all, leave the patient alone with the attendant during the first twelve hours. Insure proper sleep by the administration of codeine and the prevention of the frequent administration of "teas," soups and other worthless slops. If the physician decides to feed the patient let it be a small amount of easily digested and nourishing food, soft eggs, cereal and milk. When possible to do so, visitors should be restricted to minimum during the time that the patient is in bed, for it has been our experience that a crowd of visitors sitting around the patient will often bring on nervousness, sleepless nights and failure of the milk supply; we have occasionally found as many as eleven grown-ups and six children in the room with the patient three days after a prolonged and difficult delivery. The mother should not be annoyed by having the baby brought to breast at frequent intervals, and the respite gained by infrequent, short nursings, as indicated above, is of the greatest possible value.

Diet

Until the patient is out of bed, food should consist mainly of small amounts of highly nourishing ingredients; soups and teas have no place in the care of any one except the neurotic. Green vegetables should be added to the diet early and both fresh and stewed fruits, with the exception of bananas, for their value in combating constipation. No food that is well digested by the mother will cause any discomfort to the baby.

Drugs

An occasional dose of codeine to bring about a restful sleep is the only useful drug. The habit of giving castor oil twenty-four to forty-eight hours after delivery is a bad one, and its only effect has been to upset the mother and not infrequently to diminish the milk supply. There is no reason for bringing about a violent purging after delivery, any more than there is after any other violent and prolonged muscular effort. Those patients who are left alone, so far as laxatives are concerned, show less "reactionary fever" than those who are given castor oil and salts, and usually have a normal evacuation on the second or third day.

The Bladder

Some bladder irritation and frequency of urination was once regarded as the inevitable result of childbirth. It was the penalty not of the process, but of poor obstetrics, relaxed bladder supports and failure of the attendant to see that the bladder was completely empted. Much of this can be prevented by careful attention to the condition of the bladder during delivery, for the patient is seldom able completely to empty it, especially during the latter part of a prolonged or difficult labor. Bearing this in mind, the physician should catheterize the patient if he finds there is any vesical distress, and especially should this be a routine measure immediately before any forceps or breech delivery, in order to get the maximum room in the pelvis and to prevent injury to the bladder itself.

In our hospital work, any patient who has difficulty in voiding after delivery—either pain on urina ion or who has to be catheterized—we cathe erize once a day after voiding, until the residual urine amounts to less that ½ ounce. This is one of the most important features in post partum care, and was brought forcibly to our attention on one occasion when we saw a patient in consultation who was supposed to have post partum convulsions and the attendant reported that she had voided at frequent intervals. The catheter revealed 62 ounces of urine in the bladder and its withdrawal was followed immediately by a cessation of the convulsions—which were, in reality,

but evidences of agonizing pain from distention. Any patient showing bladder irritation after delivery should be catheterized and a specimen examined for pus.

Displacements

Posterior displacements of the uterus following delivery, where operative interference has taken place, occurs in at least 40% of all cases. Occasionally these displacements do not develop until several months after confinement, but we believe that the great majority of them can be prevented by the following method:

Have the patient lie on abdomen for twenty minutes night and morning, beginning the fifth day. (This not only helps throw the uterus forward, but promotes drainage of the lochia). The patient should be supported in a sitting posture, beginning the third day, when she wishes to empty her bladder, or for a bowel movement, and this simple manoeuvre often obviates the necessity for catheterization or a laxative. Beginning on the eighth day, the patient should be required to assume the "knee-chest" posture for the time it requires her to take twelve breaths and should continue this exercise night and morning until the baby is one month old. These simple methods will prevent sub-involution of the uterus and its attendant displacements in 75% of the cases where lacerations of the cervix and of the perineum do not exist, and even in those cases where there have been lacerations, this routine treatment reduces the discomfort very materi-The state of the ally.

Lacerations

We may expect to find some lacerations of the cervical mucosa after the majority of normal deliveries, and in 100% of the cases where operative interference, either in the delivery or in the induction of labor, has occurred. The small superficial lacerations of the cervix deserve no treatment and in many instances give rise to no symptoms. These lacerations may later on become erosions of the cervix if the pernicious habit of giving douches is indulged in. The most that a vaginal douche can accomplish after delivery is to remove those secretions which will be removed by drainage, and the worst that can be done

is to promote infections and ratidhe final examination of the patient wantable resions /appear; burning them off with the idauter viscusually all that is necessary, sug rol beamage name of

One of the most frequent causes of post partum hemorrhage of severe degree is laceration of the cervix, which extends up to and involves other circular: transfer or This / maylobccur within the ocervical canal with no loss of noontimuity of other external processing in incosans off the facilities have note at thandle for einline diate suturing to fothis idaceration; the tent ix/mlay be drawn: down to the will a and it may be packed and the ohemorrhage a controlled swithouts lany necessity/for-packing the uterus Itself, 29 When possible these severe lacerations should blways aterus forward, but promotes drambarutustad in Insmanwinstances of there its gas laceration of the perineum which idoes dnot is how externally and rit, is thed externat placerations which pare of the deast importance buil her lower portion of the devator imusole thas one part an esupporting either the rectum corythologerus and lits repair is of minor importance. At his whe middle and upper-portion of the relevator which supports the cervix and openents rectocele and it is this portion which receives the least attention from the average obstetricianal In obderatordetermine whether or not there has been auseparation of this portion, it is mecessare to the venal good light and thoroughly to expose the posterior musniraq edindo exatitares al la wolania examination de la companya del companya de la companya de la companya del companya de la companya del companya de la companya de la companya della della companya de la companya de la companya della company on wie start havistation and repaired the sign of disgrace vinv tearing callped neon ub but othere is disgraceful neglect in failing to repair it. Alla

Resignanul

injuries from becoming major ones. If the physician will show a real interest in his patients and offer service of real value, it is seldom that their hearty cooperation cannot be secured. Let them be impressed with the desire to be well, comfortable and physically fit after childbirth, and explain to them how it is possible to attain these ideals.

a violent purgin Roiseunaidy and more than

D. Dr. W. C. Hearin. Greenville: 11 feel that this symposium has been most beneficial to hescall! In regard to Dr. Moore's paper, Indo not feel that I could criticise him at all; his paper was most excellent, and we all should have gotten some very valuable information from it. regard to the toxemia of pregnancy, or eclampsia, I thoroughly agree with him that the conservative method of treating eclampsia has given much better results. I want to say just one thing, though, about the treatment of eclampsia by morphin and magnesium sulphate. To In The recentilliterature there has been a greatideal said about the use of hypotonic glucose, as well as of 15 and 20 per cent., to take the place of magnesium sulphate. I have had very small experience in using glucose instead of the magnesium sulphate, and my experience, though quite limited, has been disappointing. no Only recently I had one patient who was doing nicely and keeping the hypertension down, after having seven convulsions, with the magnesium sulphate. We used the sugar, and some very distressing symptoms arose, and labor had to be induced, whereas with the magnesium sulphate I felt it would not have had to be done

Dr. Wilson stressed the need of rectal examinations. I feel that if we do rectal examinations regularly we shall get as much information as from vaginal examinations, and werknow there the blade er itself, noitseln io sair seel houm si Dr. Wilson spoke of pituitrin during labor. I may be a fanatic, but I do not think there is any need for pituitrin until after the baby is born. He said not to use it until the cervix is dilated and the head is on the perineum. Under such conditions a low forceps delivery can the done, We know that the reaction to pituitrin is different in different individuals, so I think the safest method is not to use pituitrin until after the baby is born; I think the low forceps we saw a patient we consultation who retteducin bul was also mighty glad to hear Dro Thomp con discuss the laparotrachelotomy in place of the old classical section. As someone has said, "Once a cesarean, always a cesarean." But after the low section the doctor refers to we

find there is not always a section afterwards. In-

stead of four per cent. ruptured uteri in sub-

sequent labors, we find fewer than one per cent. ruptured. I think it is also possible to do them much later, after a test of labor, than it is possible to do a classical section.

Dr. Wilson also spoke of anesthesia. Just here, in regard to cesarean section, I should like to state that until recently I have been doing practically all my cesareans under local; but recently I have been using a combination of rectal anesthesia plus local, and I find that in these cases it has a very happy effect.

Dr. L. W. Boggs, Greenville: These papers have been ably presented. Personally, I was interested in what Dr. Moore had to say about the toxemias and the thyroid, and I wish he had gone a little further into the discussion of those subjects. I believe that the patients who have had toxic goiter removed should be advised not to become pregnant again; if they do become pregnant they should be very carefully watched and the metabolism tested at frequent intervals. Of course, a nontoxic goiter may be removed at any time during pregnancy, if the occasion arises; and these cases are rarely if ever made worse by becoming pregnant. But patients who have had toxic goiter should be watched very carefully if they ever become pregnant again, for damage has been done not only to the heart but to the kidneys as well.

Dr. Moore, closing the discussion: Somebody asked me to say something about insanity in pregnancy, but I do not know whether I ought to say a word about insanity with Dro Williams sitting on the back row. I might say this, that of course there is such a thing as insanity in pregnancy. My private opinion is that it is a toxic affair, but it has a tendency to recur in succeeding pregnancies, and it is a tremendous affair for the mother and baby. I do not know whether there is any tendency to inheritance, Some differ on this point. I am sure, however, that if a woman has two insanities in two pregnancies she should be sterilized and not run the risk of losing her mental astuteness. Just this year I had a case of a woman who had killed three different babies three months after they were born; she went insane and drowned them or choked them or killed them in some other way. She was sent to me, and I very promptly sterilized her and broke up a fourth pregnancy, because I thought I had not the right to subject her to the horrors of a fourth infanticide,

Someone said something about contracture in the masculine type of pelvis, but I did not hear the paper very well. If the head can make its way out here there is no danger. Possibly the doctor brought it out; I could not hear.

Dr. Seibels brought out some very interesting facts. He handled the dirty work of this sym-

posium. He and Dr. Wilson both stressed the need of doing something for hemorrhoids. I do not know of anything that will make the patient much more uncomfortable than one of those huge purple rosettes the third day after delivery. That can be prevented by opening the small purple spots which we see on delivery. It can be done very easily, because the patient is usually under anesthetic and partially narcotised from pressure.

I think in any of these babies that do not nurse or have repeated cyanotic attacks it is a perfectly good diagnostic measure to do a lumbar puncture right away and go in after that every six hours until there is a straw-colored fluid. If you do that you will prevent that subsequent damage which will later be classified by our neurological friends as Little's disease.

of I am sure Dr. Hearins should have been on the program instead of me. My understanding of the use of glucose solution is not as a substitute for magnesium sulphate but as an adjunct or as a treatment for special conditions, such as approaching acidosis or an already present acidosis.

The second gentleman thought I ought to have gone further on thyroids than I did. I might say that as a matter of fact I went a little further on the thyroids than I should have, because I said a lot more than I know. I think that point of pregnancy after the removal of a toxic goiter is very important. I had a patient die last week who had pregnancy begin a month after the removal of a toxic goiter. She was brought into the hospital in a state of coma, with all that goes with thyroid toxemia, and had a kidney breakdown and also slight tetany. Tetany, I think, is very likely to occur, because we already have a loss of calcium content in the mother; she is using a lot of it for the bony structure of the baby. Fortunately, calcium chlorid intravenously will take care of that.

Dr. Wilson, closing the discussion: I was very glad to hear Dr. Hearin's discussion, but I think he misunderstood me regarding pituitrin. I brought out in my paper that pituitrin is more dangerous than low forceps.

The old laparotrachelotomy was too intricate for practical purposes. Fortunately, the new low flap operation has become standardized and the technic simplified so that any of us can perform it with safety.

I am sorry that we have not heard more discussion about the prevention of eclampsia. To my mind, that is the important part of the treatment. The conservative treatment is by far the best, I know from experience. At one time I did cesareans on all eclamptics and lost about seventy-five per cent; later I used conservative methods, and my mortality is now about twelve per cent.

I agree with Dr. Seibels about feeding the mothers. It is necessary for them to eat in order to regain their strength and to establish the milk supply.

Dr. Thompson, closing the discussion: While puerperal eclampsia is not an indication for cesarean, I do not think it is a contraindication for cesarean where other conditions are present that might necessitate the operation. In placenta previa I believe the choice should be between the operation of version and the operation of cesarean.

Dr. Seibels, closing the discussion: Dr. Janeway of New York gained his reputation as a consultant by always doing a rectal examination. He said that he found that usually the physician had forgotten to do it and it was the only thing left for him to do. For the same reason, I think the discusser of a paper should endeavor to gain a reputation by bringing up anything forgotten by the essayist. Dr. Moore left out a very important point in his very full paper, and that is the question of the fee. think the first time the physician sees an obstetrical case he should endeavor to come to an agreement about the fee, how much it shall be and how it shall be paid. The method that I have found very satisfacto y is to make a flat fee for the necessary prepartum care, delivery, and care of mother and baby for one month, with the distinct understanding that this fee is to be paid the day the baby is one month old. As a general rule, these fe's are paid without any bill being sent.

I think one point in the discussion of cesarean section is of the greatest importance; no patient should have a cesarean without a good stereoscopic x-ray. I know from bitter experience that without this precantion one can be let in for very distressing situations. I did a cesarean section on a patient with a very much contracted pelvis and had the misfortune to deliver an anencephalic monster. That one experience taught me never to do another section without an x-ray. Its use brings us another advantage. Occasionally the x-ray shows a small head engaging in a pelvis which our measurements would lead us to believe to be out of proportion. It does not matter what the mother's measurements are as long as the child's head will go through.

I do feel that there has been some harm done in impressing the general practitioner with how easy it is to do sacral anesthesia, synergistic, and local anesthesia. I believe these methods should be reserved for hospital practice with trained assistants.

THE SEDIMENTATION TEST

F. B. Johnson, M. D., and W. G. Gamble, Jr., M. D., Charleston, S. C., Laboratory of Clinical Pathology, Medical College State of S. C.

The rapidity that red cells settle in drawn blood has been noted for many years, and attention particularly called to this occuring in conditions of septic absorption. Little clinical importance was, however, attached to this until Fahreous showed this occuring in pregnancy. The later work of Linzenmeier, simplified the method used. He also showed that there was a decided increase in the rate of sedimentation in pelvic inflammatory conditions, and that the test was of prognostic value.

The test has been shown by various writers to be of particular value in pelvic inflammatory conditions, tuberculosis, malignancy, and pregnancy.

Method of Performance

The comparison of the results by different writers is often confusing to the average reader because of the various methods that have been introduced for determining the sedimentation rate. Glass tubes of various diameters and length, test tubes, centrifuge tubes, graduated pipettes, Sahli tubes, etc., have been used for holding the blood. The blood has also been used in different dilutions and concentrations of sodium citrate to prevent clotting.

The method of reading the results varies considerably; some methods recording the time it takes the cells to settle a specified distance (Linzenmeier), others measure the number of millemeters of height of serum above the cells in a definite time of one and two hours. (Westergreen).

The cells are allowed to settle slowly by some, by others thrown down by a centrifuge at a certain speed for a given length of time.

By the surgeons to whom the test appears to be most useful the method of Linzenmeier, that is the time it takes for the cells to fall a distance of eighteen millemeters is more widely used.

In order to try to correlate the various me-

thods so that a comparative value may be obtained, we have investigated a considerable number of the methods already described, and also tried out various procedures to bring out certain points for discussion.

The methods used by us were the Linzenmeier method, the Westergreen method, and the Morriss method, and others, as well as various modifications of these. Any of these can be carried out easily.

Lingenmeier Method1

In the Linzenmeier method glass test tubes 6.5 cm. long and 0.5 cm. inside diameter with a mark at 1 c.cm. capacity and at distances of 6, 12, 18, 24 mm is used. The blood is withdrawn from a vein into a syringe and mixed with a 5% solution of sodium citrate in proportion of 1 to 4 (0.2 cc sodium citrate to 0.8 cc blood.), and placed in the tube to the mark of 1 c. c. The reading is usually taken as the number of minutes it takes for the cells to settle to the 18 mm. mark. Normally this takes about 160 minutes.

Westergreen Method2

In the Westergreen method glass tubes 300 mm. long and 2.3 mm in diameter are drawn out at one end to a tip and a mark is made on the tube 200 mm. from this tip. The blood is diluted with 3.8% sodium citrate in proportion of 1 to 4 and the number of millemeters of height of serum above cells is determined at the end of one and two hours. Normal, this is 1 to 7 mm. for one hour.

Morris Method3

Morriss method uses a one cubic centermeter pipette graduated in one hundredths, the blood being diluted with 3.8% sodium citrate in proportion of 1 to 4 and drawn up in the pipette to the 1 c. c. mark. The percentage of volume of serum above cells is determined at the end of one and two hours. Normally this is under 12%.

Cooper Method4

In the Cooper method centrifuge tubes are used and the blood is obtained and diluted with potassium oxalate as for blood chemical analysis (20 mg potassium oxalate for 10 cc of

blood). Blood being placed in the centrifuge tube to the 5 cc mark and the volume percentage of cells determined at five, ten, fifteen, thirty and forty-five minutes. Normally at the end of forty-five minutes it is about 85% cell volume.

In the study of normal individuals by the methods described and the use of tubes of various other lengths and diameters, we have noted the following:

- 1. In columns of varying height of 50 mm. to 300 mm., the distance of fall of red cells was determined, and the rapidity of fall was more marked the longer the tube.
- 2. The diameter of the tube effects only slightly the distance of fall. Tubes of varying diameters of 2 mm. to 15 mm. showed approximately the same distance of fall of cells.
- 3. With the method of Morriss using graduated pipettes it was found that in measuring the percent of volume of serum above cells varied on the same blood, unless the length of the column of graduation was identical on the pipettes used. The length of graduated space covered on the pipettes varies, unless the pipettes are carefully selected. Such are hard to obtain. A 10 percent drop might correspond to 18 mm. in one tube and 10 to 12 mm. in another tube. A 10 millemeter drop may correspond in one tube to 10% in another to 6%.
- 4. The normal rate for determination by volume percent will vary arbitrarily for each separate graduated tube used. Any graduated pipette or ungraduated tube may be used for determination of rate if we will stick to the determination in minutes to fall 18 mm., or the distance of fall in mm. in one or two hours Small tubes in diameter use less blood, but it was noted that tubes of less than 2 mm. the rapidity of sedimentation was more rapid than tubes of 2 to 15 mm. Therefore tubes should not be of less than 2 mm. or more than 15 mm. in diameter, and it is best to use 1 c. c. of blood, the smaller quantities may be used. The height of column should be 50 mm. or more. With such tubes you may determine the time it takes for cells to drop, according to the Linzenmeier method, or the number or millemeters of drop of cells in one and two hours according to the method of Westergreen.

Clinical Value

In addition to the increased rate of sedimentation being found to be of particular value in inflammatory pelvic conditions, tuberculosis, malignancy, and pregnancy, further investigation has shown the increased speed of settling of cells to occur in a number of other conditions.

The increased rate may be said to occur in all conditions where the higher products of protein destruction are found increased in the blood. Consequently in addition to the conditions already mentioned the sedimentation rate is increased in the following: all febrile conditions; in many inflammatory conditions without fever; after parenteral introduction of foreign protein; after the use of X-ray and radio-active substances therapeutically; in kidney disease showing high nitrogen retention; in cardiac decompensation; in liver disease where there is a lack of normal protein destruction; in benign tumors where destruction and resorption of cell products is occurring as well as in malignant tumors; active syphilis, paresis, and tabes; and after operation of any kind for at least seven to eight days.

Over enthusiasm occuring at first in regard to the value of this test has now given way to the realization of its present restricted value. The greatest value of the test may be said to be that its presence denotes abnormal tissue destruction occuring some where in the body. As Polak⁵ states, "the test never lies."

myocarditis, chronic nephritis, and generalized arterioselerosis. WBC. 17,170. Polys. 80%, Hbg. 40%. Urea Nitrogen 4111 Had submormal temperature. Sedimentation time 40 mins. Percent for two hours 55! A retroperitioneal abscess was found on autopsy!

As an indicator of inflammation, this test appears to be of more value in some cases than does the total and differential blood count. It is more constantly present, but does not show as early an appearance, for instance the test is of little value in the diagnosish of acute appendicitis. It is said, in this condition about thirty hours leapse before the sedimentation shows any increased rate.

In pelvic adnexal inflammatory conditions

the test has been shown by many surgeons to be of undoubted diagnostic and prognostic value, particularly as to the suitable time to operate.

Some have declared when the rate is 60 min. or less, that operations should not be performed, others have shown that when other clinical evidences warrant it, these patients may be operated upon successfully when the rate is under 60 min. So by some the lower limit of contradiction for operation is placed at 30 to 40 minutes.

CASE 47658. Female, Diagnosis—Salpingo-oophoritis and chronic appendicitis. White blood count 11,250. Hgb. 75%. Polysa 75%. Sedimentation time 17 minutes. Percentage 43. On account of high rate, operation was postponed. Three days later sedimentation time 20 minutes. Percent 35. On operation a subacute puruelent salpingitis was found. This patient was operated on after this in spite of low rate and recovered.

In tuberculosis the test may be of diagnostic value, in that pulmonary tuberculosis is said not to exist actively, unless the rate is increased. However, the chief value in this condition is of prognostic aid. With any increasing time improvement is occuring, and with a decreasing time the process is extending and the prognosis is bad.

of pulmonary tuberculosis. Hgb, 54%. WBC, 12,955. Polys 70%. Sedimentation time 20 minutes. Percent for two hours 50. This case showed a progressive decline with septicitemperature.

In the diagnosis of pregnancy it is of little value because in the first place the increased rate occurs only after the third month and second from the fact that it such confusing tumors as fibroids will show an increased rate when degeneration is taking place in the tumor. When not present it may be of value in this and in cystic tumors.

CASE 47750. Female. Diagnosis—Uterine fibroids, chronic salpingo-oophoritis. White blood count 6,560. Polys. 70. Hgb. 60. Sedimentation time of minutes. Percent for two hours 18 minutes. Patient operated on and a very chronic condition of the tubes and ovaries was found, with degeneration of fibroids. Here

the most accurate, and on account of It is said to be of value in the differential Hormity the Emzenmeier seems the most applicable.

2. The test seems to be of more value to the gynacologist, particularly in pelvic inflammations, especially in indicating the favorable time for operative interference lo rein a soll

3. The test in some cases indicates active inflamination, or protein destruction, when the temperature, blood count? and clinical observation fail, but cannot or should not replace entirely clinical methods or the white blood remotest antiquity shows his thoughts of file nasal mucosa as a Borral Winfluence upon the id Lindenmedier Maccording to Baer and Reis! recent ears, thos sonson on sydo at letymeacblowester breen Amt. Rev. Tuberculosis, 72! theorists to attack distant cranial, v.6561abond Revertiss? WildfissiAmresReve Tuberculosis binal or septal areas. Fantasticory then of 10 Cooper. HANY Irolablus Clo Meditri 6001 of reputed cures.

ATH IN SIDE OF THE PROPERTY OF THE ARRIVATE OF THE ARRIVATION OF THE PROPERTY logical origin .82012472 lsnkl) 1861 acon Aci Mells from the V and VII ganglia. It is connected, however, in the adult, with:

1. The maxillary branch of the trigeminus nerve through the sphenapalatine nerves.

2. The facial is through the intermediation of the Vidian nerve and the great superficial petrosal nerve.

s. The glossopharyageus nerve ihrough the great deep petrosal and its continuations, the small deep petrosal and the nerve of mostlera:

of H is gotten that there are about comilies waimmunista will flammill cause all this capit in a millione water the motion briefler of the latter siers after the observer with

1 De convillant toposes of following of the without I would it commit to al Terretories of the charge grandless from Dayer

Blacking of the agoal gangling will reflere ment plants, the religible of the pality of the three of sum left of all he metaller of antisalt wir ayager langt gelt for regise prose mehret geit nasal ganglibin. The mercuc intermedius of

we have an example of the rate being influenced. Linzenmeter or Westergreen were in our hands. by fibroids.

diagnosis of adnexal inflammatory tumors from ectopic gestation, as it is not found in the first three months of pregnancy. However, it has been shown it is of little value after the subture of the tube in ectopic as this will produce an increased rate.

nelhe malignacy in its diagnostic value is also somewhat impaired in that benign tumors with degenerative changes for some associated inflammatory condition will increase the speed of sedimentation. The telephone of sedimentation.

Of CASE 47428. Female. Carcinoma of Eefs vix.s Inopérable: Hgb. 63%. WBC!! 8,206. Poll's 55% on 2/4/28 sedimentation time 66 minutes. Percentage for two hours 55. As the disease progressed the time and percent were as follows: 140 minutes and 1 40 percent. 110 10 instructed and 67%. Finally 16 minutes, and half her locker that the books the ne de Conclusion de est to flad mechanisms on the mind or front half the Held While any accepted method for determining the sedimentation time is of value, the nal, in the back how the same algic or facial These pains are cadily relieved by the block-

the back of the period of assomption in origin the nerve of Wrisberg carries cramal sutonomic fibers some of which para to the mant all mole try ole take the following facial brunches of the mulcies and irritation of the standard metapolice to the new enter ** The state of the second my all ruly a little is a lighter who have a first life with all the entirely

The second of th

the fall of the control of the contr ل ودور الله المال الله المال mulquea

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., CHARLESTON, S. C.

The Embryology and Neurohistology of Sphenopalatine Ganglion Connections: A Contribution of the Study of Otalgia, Dr. O. Larsell & Dr. R. A. Fenton; Laryngoscope, June, 1928

Man's use of sternutatory drugs from the remotest antiquity shows his thoughts of the nasal mucosa as a portal for influence upon the vital forces and upon the brain. In relatively recent years, the sensory and sympathetic reactions of the nose have tempted various bold theorists to attack distant cranial, visceral and pelvic disorders by cauterization of certain turbinal or septal areas. Fantastic systems of localization were published, with a succession of reputed cures.

The sphenopalatine ganglion has its embryological origin in mamals by migration of cells from the V and VII ganglia. It is connected, however, in the adult, with:

- 1. The maxillary branch of the trigeminus nerve through the sphenapalatine nerves.
- 2. The facial is through the intermediation of the Vidian nerve and the great superficial petrosal nerve.
- 3. The glossopharyngeus nerve through the great deep petrosal and its continuations, the small deep petrosal and the nerve of Jacobson.
- 4. It is possible that there are also connections with the vagus, through the communicating branches between the nodose ganglion of the latter nerve and the glossopharyngeus nerve.

The Neurologic Aspects of Infection of the Nasal Sinuses. Dr. Simon L. Ruskin; Archives of Otolaryngology, June, 1928

Blocking of the nasal ganglion will relieve many patients with asthenopia. The pains are due to overaction of the facial muscles resulting from irritation of the facial nerve via the nasal ganglion. The nervus intermedius of

Wrisberg, continued as the N. superficialia petrosus major, is the sensory portion of the facial nerve. From the geniculate ganglion (the ganglion of the sensory facial) the great superficial petrosal nerve travels to the nasal ganglion. This connection is of great importance. It contains taste fibers to the roof of the mouth and side of the tongue, tear fibers to the lacrimal gland, motor fibers to the levator palati muscle and sensory fibers as well. The pains described as part of the Sluder syndrome referable to the back half of the head closely follow the facial distribution rather than the trigeminal. Some patients show a decided front half headache; others have pains in the back half of the head. This is due to two different mechanisms, one trigeminal or front half, the other facial or back half. In the front half type the pains are typically sensory or trigeminal, in the back half they are myalgic or facial. These pains are readily relieved by the blockage of the sphenopalatine ganglion.

The myalgic nodes and painful muscles at the back of the head are vasomotor in origin. the nerve of Wrisberg carries cranial autonomic fibers, some of which pass to the nasal ganglion. These fibers also pass along the facial branches of the muscles and irritation of the cranial autonomics in the nose cause vasomotor spasms in the facial distribution. This spasm interfers with muscle metabolism and gives rise to local symptoms. The same mechanism can be used to explain the almost uncanny results obtained in persons with severe pain in the shoulder, with lumbage and sciatica,

Probably some cases of noises in the ears and impaired hearing are due to vasomotor disturbances in the ear and myalgic conditions of the stapedius muscle.

Vasomotor states of the local nasal structures resulting in sneezing and rhinorrhea can be controlled by cocainization of the nasal ganglion.

Migraine Controlled Through the Nasal Ganglion. Lawrence K. Gundrum, M. D., Archives of Otolaryngology Nov., 1928

This case presents unusual features. Severe attacks began at the age of puberty and gradually increased in frequency and severity. At first, they appeared only at the menstrual periods; later, they occured between periods, and were always present just before or during menstruation. The menstrual periods became very irregular and were associated with great prostration and pelvic pain. After treatment of the nasal ganglions, menstruations became normal. The patient had been incapacitated from active life for seven or eight years. The seeming hypochondriasis has entirely disappeared. If this is a case of migraine the question arises as to what part the nasal ganglion played in the nsydrome. The cause of migraine, has, of course, not been definitely proved. There is no doubt that the gastrointestinal tract plays an important part. The nervous mechanism also is important. Buch has proved that the sympathetic nervous system carries pain impulses, at least under pathologic conditions. If this is true, it seems reasonable to suppose that the nasal ganglion is a link in the chain which carries impulses of pain causing the symptoms of the type of pain which is called migraine. Removal of this link relieves the symptoms. This is in accord with the theory of pathologic currents described by Byrd.

l do not propose treatment of the nasal ganglion in all cases of migraine. Herpes Zoster and Intercostal Neuralgia Relieved by Sphenopalatine Ganglion Treatment. Dr. S. L. Ruckin, Laryngoscope, November, 1928

Case 1; Mrs. D. C., age 32 years, was referred to me by Dr. Harry Handleman with a history of having had for the last three weeks pain along the course of the ninth left intercostal nerve. This was followed by a typical eruption of herpetic vesicles and the pain became lancinating in character and associated with troublesome itching. In addition, she suffered from general nervousness, a choking sensation in the throat, watery nasal discharge, and a sensation of tightness across the bridge of the nose. She had had the choky sensation in the throat for a few months, and within the same period she noted that her voice had become low-pitched.

Cocainization of the nasal ganglion gave immediate relief from the zoster pains.

It is probable that the pathway lies along the sympathetic fibres passing from the nasal ganglion to the cervical sympathetic ganglion, and from there to the sympathetic ganglion communicating with the ninth spinal ganglion.

Leriche and Fontaine noted certain morbid phenomena in the throat after an operation upon the cervical sympathetic; dryness of the throat, hoarseness and difficulty in swallowing; associated with hyporemia and edema of the tongue, larynx and pharynx. They suggest that this ganglion may represent a vasomotor centre for the larynx.

Heitger relieved the pain of angina pectoris by cocainization of the nasal ganglion. Sluder feels that this is unquestionably the blocking of the transmission pathway of sympathetic nerve pain. L urs was rater

Stobe o ale Garglion YARILIARY S'MAMOW S. I. Rue In, Laryn-

......

South Carolina Medical Association

havir th OFFICERS

OFFICERS

Mrs. W. H. Nardin, Anderson, S. C. President
Mrs. W. A. Able, Columbia, S. C. Second Vice President
Mrs. D. S. Pope, Columbia, S. C. Second Vice President
Mrs. I. H. Grimball, Greenville, S. C. G. Recording Secretary
Mrs. I. H. Grimball, Greenville, S. C. Cor. Secretary
Mrs. Frank Wrenn, Anderson, S. C. Cor. Secretary
Mrs. J. R. Miller, Rock Hill, S. C. D. Publicity Chairman

writible councilors emossiduous that

Mrs. W. G. Gamble, Jr., Charleston, S. C. First District Mrs. Ben Wyman, Columbia, S. C. Second District Third District to be Appointed.
Mrs. J. W. Bell, Walhalla, S. C. College Fourth District Mrs. W. J. Dunn, Camden, S. C. Sixth District Mrs. E. M. Hicks, Florence, S. C. Sixth District Mrs. Carl B. Epps, Sunter, S. C. Eight District Mrs. Carl B. Epps, Sunter, S. C. Eight District Mrs. L. A. Hartzog, Olar, S. C. Eight District Mrs. Carl B. Epps, Sunter, S.

Now that the Christmas holidays are over the auxiliaries will be initiating new programs and activities. The publicity chairman requests the councilors to write of the work of their organizations and thus pass on helpful suggestions to ofhers. Please send in news.

The Woman's Medical Auxiliary wishes to express to Mrs. H. M. Stuckey its deep sympathy for her in the loss of her devoted husband. Dr. and Mrs. Stuckey have both been prominent in the medical life of South Carolina for years, and his passing takes from the profession one of its worthiest and most loyal throat, horrseness and officulty in saradmam

In her great sorrow, Mrst Stuckey can feel assured that she is much in the hearts and prayers of her co-workers in the auxiliary. has the can mary L. Miller.

module that the latent

As the Sims's Memorial is to bellunveiled in Columbia in the spring, it may not be amiss to briefly review the part played by the Woman's Medical Auxiliary in the erection of this memorial.

Several years after the organization of this body the sentiment seemed to grow that the auxiliary should enlarge its activities and do something toward a recognition of worthy service rendered humanity by some one in the medical world. The fact was brought out in the convention in Sumter in 1926 that while South Carolina had produced one of the world's greatest physicians and surgeons in the person of Dr. J. Marion Sims, she had done absolutely nothing to perpetuate his memory.

It is rather a sad commentary on humanity, that while the nations of the world have been generous in erecting monuments to military heroes, they have been very slow in doing as much for those who have been heroes in the battle against disease.

> It seemed eminently fitting that women, who owe so much of relief from pain and suffering to thim who toiled so long and patiently that they might have health and happiness, should take up the work and carry it to completion. Under the able leadership of our state president, Mrs. H. M. Stuckey, an active campaign, to raise funds was started. The press gave publicity to the cause, local auxiliaries presented it, to schools, women's clubs, and other organizations, and the doctors cooperated whole-heartedly. Contributions commenced to come in and we began to think of the Sims' Memorial as a reality rather than a dream. While there was a diversity of opinion as to what form the memorial should take, there was perfect harmony in the committee when it was decided that it should be a bust, the funds not being sufficient for a life-size statue. Both the University of South Carolina and the South Carolina, Medical College coveted the honor of having the memorial placed on their grounds, and it was perfectly natural that they should, for Dr. Sims was an alumnus of both institutions; but the consensus of opinion was that it should be on the State House grounds in Columbia, where so many monuments to the south's famous sons have been erected.

> After a little more than two years of intensive work, the goal is in sight; more than \$3,000 has been contributed. The state will duplicate their auxiliary's collection. The sculptor, Mr. Quinn of New York, is at work on the bust. It is to be unveiled in the spring and it is our earnest desire that, a large delegation of doctors and their wives be present on this occasion to do, honor to one of South Carolina's sons of whom we are justly proud, to one who labored, not for glory, not for gain, but for humanity's sake.

(Mrs. J. R.) Mary L. Miller, Publicity Chairman.

MEDICAL AUXILIARY ELECTS PRESIDENT

Mrs. W. S. Fewell was hostess to a meeting of the Greenville County Medical Auxiliary held yesterday afternoon at her home on Belmont avenue. Entertaining with her was Mrs. George Wilkinson. At this very interesting meeting new officers to serve during the present year were elected as follows: Mrs. J. Warren White,

president; Mrs. W. C. Hearin, vice-president; Mrs. J. G. Murray, recording secretary; Mrs. C. P. Corn, corresponding secretary; and Mrs. Clay Evatt, treasurer. With these officials the organization can expect to accomplish a great deal during the year.

At the meeting held vesterday annual reports of committees were heard that showed unusual achievements during the past year under the leadership of Mrs. W. C. Hearin. The auxiliary will this year assist materially with the milk and ice fund that is so necessary to the com-

whow lost selfiw noise strangers, edf. n. earliew titum the argument of the first Mrs. Dulin ne. Arow

Two musical numbers, were consthen program rendered yesterday afternoon. Haskelf Boyters sang a group of two numbers accompained by Miller Simpson and Mrs. Simpson played a piano solo tummo amount and evolum of gnises.

expression of the Bethel Improvement Strict on the first community organization of the first community organization from the state. He served as its first mose

that the war are troprovened of an arrange along advertional agricultural and social 1:58 A memb ZMBTI ZWBN -: Trest of the since 1886 he was elected But the arrange of the control of th

DR. DULIN IN LEGISLATURE

9 Clover, S. C., December. 21 York county is sending Its only "country doctor" to represent it In the legislature down at Columbia, which meets early next month. The friends of the only country doctor whose circle of friends and acquaintances is wide, not only over York county but over the Carolinas, is confident that he will give them in the state's legislative halls, the same honest and skillful and conscientious service which he has given the people of Bethel township as a physician during the past thirtysix years. A quarter of a century ago when there were no automobiles in the country side, it is doubtful if Dr. Thomas N. Dulin could have been spared by his community to go to the legislative hall, no matter how great might have been the need for his aid there. But now it is different. But a man of vigorous vitality and energy it is dollars to dough nuts that he will keep up his medical practice along with his work as a legislator. And although he has no pet schemes to put over "down yonder" as most of the politicians speak of the state house he will be found working for the best interests of his county and state every minute. the major premise of his scheme of things has ever been that "promptness and devotion to duty is the essential to success."

Waited Until Late

Most men in South Carolina who go in for personal politics and possess a penchant for office usually start early in life. Dr. Dulin didn't. From his youth he has always taken a keen interest in public affairs as a good citizen should and more especially in the welfare of his community. But never did he become a candidate for office until he had reached the mature age of 58. That was last summer when like a bolt from a clear sky he announced for

a seat, in the assembly with a fidentic out.

a seat, in the assembly with a fidentic come out.

as the candidate of any clique or class or faction of the more or less demoralized Democracy of York. There was no previously announced declaration of intention. "Dulin Just decided to do it," said his friends: "and he did it." He went over with 2586 votes in a field of candidates that included severals who, had, much dates that included severals who, had, much more political experience than he had, and in york of the several with a series of the county and in South Carolina experience, ordinarily counts for right smart in politics ostal candidates of the several of the several ordinarily counts for right smart in politics ostal candidates of the several ordinarily counts or right smart in politics ostal candidates of the several ordinarily counts for right smart in politics.

Born in the Bethel community, several miles north-east of Clover, July 12, 1870, the son of the late John Dulin and Mary Jane McCullough Dulin not so far from historic old Bethel Presbyterian Church, Dr. Thomas Newton has never moved away. It is a beautiful community in which to live and an unusually fine citizenship tills the fertile fields. When he started practicing medicine thirty-six years ago most of the numerous physicians lived in the country districts. But as the towns grew in population they all moved to the more populous centers. All but him. And he has prospered. He has his office in the yard at his handsome country place. He keeps a large line of drugs and other necessities of the physician and surgeon and he fills his own prescriptions or most of them, right on the lot. He has been present at the birth of most of the babies over a wide strata of territory in the past three decades and he has attended most of the whites as well as the colored in their final illness in that long time.

After attending the common schools of his community as a youth, he later attended Fort Mill Academy in 1885. Then he went to Atlanta to study medicine at the Atlanta Medical College, graduating from there in 1892 and going back to Bethel to start the practice that has grown with the years. January 4, 1893 he

was married to Miss Mary Lillian Stanton and of this union four children survive. Some years after the death of the first Mrs. Dulin he was married to his second wife, Miss Bessie L. Garrison. That was July 12, 1921.

For Community Improvement

Seeking to improve his home community through co-operative effort of the citizenry he was in 1912 the prime mover in the organization of the Bethel Improvement Association, one of the first community organizations of its kind in the state. He served as its first president. Its aim was the improvement of all rural people along educational, agricultural, industrial and social lines. A member of the Presbyterian church since 1886 he was elected an elder at Bethel in 1900. He served as superintendent of the Sunday school for five years and in May, 1927, served as a member of the general assembly of the Presbyterian Church at Eldorado, Ark.

Prominent in Medical Society

Dr. Dulin has long been prominent in the affairs of the York County Medical Society. He served two years as its president and he served three years as councilor from the Fifth District to the South Carolina Medical Association. He also serves as chairman for Bethel township of the York County Historical Society which organi-

zation hopes some day soon to publish a complete history of a county rich in history as well as tradition.

York county, by the way, sends three physicians to the next general assembly, a fact without parallel on the part of any county in the United States so far as the record show. The other two from York are Dr. I. J. Campbell, Clover, senator-elect and Dr. David Lyle, Rock Hill. The other two are old political war-horses however, Campbell served as mayor of his town and a member of the house, while Lyle has sought the mayoralty of Rock Hill.

New Clientele for Him

But to the "country doctor" of Bethel, a man modest and quiet and unassuming, one who takes few folks into his confidence and who knows little of practical political pulling as played in South Carolina, it is a new clientele—new patients he is called upon to attend. But thirty-six years of medical practice in the same community have given him a wonderful insight into human nature, human vagaries—flips and flops and follibles.

The 2,586 citizens of York who voted for him and many more are confidently counting upon him for aid in diagnosing the case of the county and state and prescribing the remedy.

JAS. D. GRIST, The Yorkville Inquirer.

SOCIETY REPORTS

PROCEEDINGS OF THE ANNUAL MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, DECEMBER 11TH, 1928, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors: A. E. Baker; B. R. Baker; Ball; Banov; Beach; Beckman; Boette; Bowen; Bowers; Buist; Burn; Chamberlain; de Saussure; Finger; W. H. Frampton; Heidt; Jackson; F. B. Johnson; W. H. Johnson; Kollock; LaRoche; McCrady; B. K. McInnes; C. F. McInnes; Martin; Mitchell; Mood; O'Driscoll; E. F. Parker; F. L. Parker; Pearlstine; Phillips; Plowden; Prentiss; F. R. Price; Ravenel; Rhame; W. M. Rhett; Richards; Rutledge; Scharlock; Scott; J. E. Smith; Speissegger; Taft; Townsend; Waring; Wild; L. A. Wilson; Miles. (50).

Guests: The President of the South Carolina Medical Association, Dr. R. E. Hughes of Laurens, S. C.; the Secretary of the South Carolina Medical Association, Dr. Edgar A. Hines, of Seneca, S. C.; and the Chairman of the Committee on Scientific Program of the South Carolina Medical Association, Dr. Hugh Smith.

Under the heading of Unfinished Business, the President announced that he had appointed the following to serve on the Medical Milk Commission: Dr. W. M. Rhett, Chairman, Dr. Sylvia Allen, Dr. M. W. Beach, Dr. T. H. Byrnes, and Dr. G. F. Heidt.

Under Miscellaneous Business, Dr. Edward F. Parker asked that he be allowed to make a few remarks in regard to the research work now being carried on by Dr. Roe Remington, which had for its object the determination of the iodine content of South Carolina vegetables. He offered a resolution congratulating Dr. William Weston, of Columbia, who had brought the matter to the attention of the Legislature, and said that he thought the Society should send him felicitations. Dr. Robert Wilson was in favor of the resolution, and stated that Dr. William Weston had not only brought the matter to the attention of the Legislature, but through his earnestness had induced the Legislature to appropriate money for this purpose. The resolution formulated by Dr. Parker, which was unanimously adopted, is as follows:

Resolved that the Medical Society of South Carolina send its felicitations to Dr. William Weston, of Columbia, S. C., and congratulate him on the preliminary laboratory research report that the edible products raised on the soil of South Carolina have a high Iodine content as compared with that of many other States, that his unique conception was alone responsible for the appropriation by our State of money enough to test by scientific experimental methods the truth and practical value of the original idea which has brought honor to him and marked attention to his native State.

Dr. Leon Banov reported on the large number of influenza cases in Charleston, and advised the Society that the Board of Health had adopted a resolution requesting the Medical Society to appoint a committee to cooperate with the Board in the handling of the epidemic in the city. The following committee was appointed: Dr. Robert Wilson, Dr. O. B. Chamberlain, and Dr. John J. LaRoche.

A letter was read by the Secretary from the President of the Charleston branch of the Women's Auxiliary to the Medical Society, offering to help in every way possible in entertaining at the May meeting of the South Carolina Medical Association. It was moved and adopted that the Society answer by a similar courteous letter to the President of the Charleston branch of the Women's Auxiliary.

Under election of officers, the following were unanimously elected:

Secretary-Dr. W. A. Smith.

Treasurer-Dr. J. H. Cannon.

Librarian-Dr. W. C. O'Driscoll.

Member of Board of Commissioners—Dr. W. A. Smith.

Member of Board of Censors—Dr. C. W. Kollock.

Member of Board of Finance (9 years)—Dr. E. F. Parker.

Delegate to State Medical Association (5 years)—Dr. J. S. Rhame.

Alternates—Dr. M. W. Beach, Dr. W. A. Smith, Dr. J. E. Smith, Dr. D. L. Maguire, and Dr. J. J. Ravenel.

Dr. Louis S. Miles was present, and signed the constitution.

There being no further business, the Society adjourned to the Nurses' Dinning Room of the Roper Hospital, for supper and entertainment.

W. A. Smith, M. D., Secretary.

FLORENCE MEDICAL SOCIETY MEETING

The regular meeting of the Florence County Medical Society was held Tuesday night Decemper 11, 1928 at The Atlantic Coastline Y. M. C. There being no further business the society A., at 8 P. M., at which time a delightful turkey supper was served to about twenty members. After supper the meeting was called to order by the President, Dr. E. A. Simmons, Minutes of the previous meeting were read and approved. An official transfer from the Greenville County Medical Society for Dr. Law. Wood was readol signed aby the Secretary, Dr. Arving Son Barksdalea M. D. Isa Duli Simmousa welcomed DrugWoodscinto.soungsocietygandusaid that she knownthatethed societyd would be strengthened by earningh to test by set nine against a days

TA motion by Dr. W. E. Hicks to the effect that all permanent practicing physicians in the county to pay ten dollars yearly dues; and all one very Interns to have a reduction in fees; they are to pay five dollars yearly plus actual expenses. The motion was duely seconded and passed. of Dr Julian Price of the Florence Infirmary was effected a new member pending his registration

of this licensein and to guilbased and at break Election of officers for the ensuing year was then entered into, the result of the election was as follows. President Dr. James McLeod. Vice

Plesident Dr. Frank Kelly, Secretary and Treasurer Dr. E. E. Herlong and In Indiana

Dr. E. M. Hicks first on the program then was introduced and read a very interesting and instructive paper on Obstretics, reporting the salient features in three hundred deliveries handled by him and Dr. N. W. Hicks in the past two years. Dr. Hicks' paper was discussed by Drs. S. R. Lucas, A. G. Eaddy, W. E. Hicks, Frank Kelly, E. A. Simmons, Frank Rhodes, and Dr. Jas. McLeod, Dr. Hicks closing the discussion. His paper was very interesting and enjoyed by all present. Librarian- Dr. W. C O'Drisc

WDr. R. E. Lee next on the program sent in his regrets, stating that he was at home, in the hed with Influenza. All extended sympathy,

Dr. A. G. Eaddy made a motion to the effect that the President and Secretary, of the society write all Quacks' and parties who were fillegally engaged in the practice of medicine in Elorence County and warn them and if they continued, to report the matter to the Grand Jury or to those who were in a (position to put a stop to the malady. The name of Mrs Leel McDaniel, Jr., of Hemmingway, S., C., RM F. 2D. was given in as practicing medicine without a degree or any license whatsoever. The doctors think this should the ostopped tifrom at humanitarian stand Roper Hospital, .. nozar radio on rola ahining

Those present lat the meeting were: Drs. E. A. Simmons, Jas. McLeod, A. G. Eaddy, E. M. Hicks, L. B. Salters, W. E. Hicks, C. L. Guyton, L. W. Wood, J. L. Davenport, Percy Hay, Onto Finkles Juliant Price La M. Lide, Arm. Raddy MaR. Mobley, and Ear. Herlong, sibell was adjourned.

YTHIO (Respectfully submitted,

E. E. Herlong, Secretary.

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SOCIETY HELD AT THE IMPERIAL HOTEL, MON-DAY, DECEMBER 3, 1928.

The meeting was called to order by the President, Dr. Johnston, at 8:30 P. M., with about 25 members present.

The minutes of the last meeting were not read on account of the full program.

Reports of clinical cases were then called for. Dr. Pollitzer reported a case of chorea minor which did not respond to magnesium sulphate therapy.

There being no further clinical cases to report, the President then called upon Dr. R. M. Pollitzer, the speaker of the evening. Pollitzer gave an excellent talk on his experience with the prevention and modification of measles infection, stating first that it was one of the most communicable of the infectious diseases known to medical science. He further stated that too little attention has been paid to it both by profession and the laity, also that there has been a great deal of talk about the subject and too little action taken by all concerned.

The speaker then gave a very exhaustive resume of work done on the actiology of the disease, stating that the Italian work has not been corroborated, and that all of Tunnicliffe's work has as yet, yielded no preventive or curative serum.

As is commonly known, one attack confers a lasting immunity. Reports of recurring measles in individuals was thought, by the essayist to be due to mistaken diagnoses. Infants under six months of lage enjoy an immunity doubtless dontracted from the mother, which is lost after the schild lise eight months of age. 3 We were also informed that measles causes 1 sper cent of all the deaths from infectious, communicable diseases, with a mortality of 4-61 per cent. In hospitals, the mortality is much higher amounting to something like 20-50 per cent. Four per cent of the children develop pneumonia following medsles rand 3.50 per cent developed otitis media di Measles is mosti readily communicable two days before and two days after the rerupa tention of . Logislature..noit

-arDr.I Pollitzer then stated that there was no drug for serum on the market that was of value that the French had reported fairly successful data regarding the use of convalescent serum in the prevention of the disease, Three per cent of people are naturally immune to measles Park and Zingher carried out some investigations of this nature and were convinced. Adult blood serum has been used in the prevention and treatment of measles with some success, however, two or three times as much adult serum should be used as the convalescent. Parental blood is the most easily obtained, and Bivens in a series of 23 cases prevented measles in 14 and modified measles in the remaining 9 cases of his series. Dr. Pollitzer then added that the adult blood should be given before the 4th day following the exposure to prevent the disease and before the 7th day to modify. Dr. Pollitzer impressed upon us that the modification of measles was the method of choice, because modified measles produces permanent immunity, whereas protection against measles by the above methods produces only a temporary immunity which soon wears off. If there are outstanding reasons why a child should not have measles, the physicans should endeavor to prevent it by giving the immune adult serum before the 4th day following the child's exposure. A long incubation period is characteristic of modified measles. Dr. Pollitzer then stated that the advantage of the administration of human serum is that there is no serum sickness which follows it.

The speaker then presented several of his cases which gave some evidence that adult serum of people who had had measles had its place in the prevention, modification and treatment of the disease. Discussed by Drs. Curran B. Earle, C. O. Bates, Houston and Wilkinson; closed by Dr. Pollitzer.

With the completion of the scientific program the election of officers was declared in order.

Dr. C. O. Bates nominated Dr. Murray it was moved, seconded and carried that the nominations be closed, and Dr. Murray was elected by acclamation.

Dr. W. T. Brockman was nominated Vice-President; it was moved seconded and carried that nominations be closed, and Dr. Brockman was elected by acclamation.

D. Barksdale was nominated Secretary; it was moved, seconded and carried that nomination be closed, and Dr. Barksdale was elected by addiamation.

Dr. 11d3h Smith was nominated Treasurer; it was moved, seconded and carried that nominations be closed, and Dr. Smith was elected by acclamation.

The election of delegates and their alternates then followed. Dr. Houston was nominated by Dr. Curran B. Eurle; Dr. Brown was nominated by Dr. Bates; Dr. Anderson was nominated by Dr. Tyler; it was moved, seconded and carried that nominations be closed, and Drs. Houston, Brown and Anderson were elected by acclamation.

yd Dr. Curran B. Earle moved that the delegates be authorized to appoint their own alternates; seconded and carried. The mode of mail It would all the delegate of the meeting was declared adjourned at A very delightful buffet supper twas served by the Hotel Managements and be declared be absoluted by the supper twas served by the Hotel Managements and be declared by the buffet growth by

Trow and gutter but an interest and partial and and an interest and an interes

RIDGE MEDICAL SOCIETY MEETING

The Ridge Medical Society met December 17, at seven o'clock'p. m., with a larger attendance than usual 2000 at 1100 at

t(i)Dru Wu T.) Gibson reported a case of possible purpural which ended fatally in two days. This was discussed by Dr. W. P. Timmerman who calso saw it. (U) 11018-128 1111 111 1111

Angina which was discussed by Drs. Blake and Barrondo 11 Journal of the Property of the Company of the Company

of Dr. R.H. M. (Fuller) of Greenwood gave some case reports of abortions and ruptured tubal pregnancies which efficited considerable discussions.

x-Dr. Dotterer of Columbia read a paper on the pre and post natal care of mothers which caused favorable comment and questions, etc. Resolutions of regret over the early removal of Dr. W. T. Gibson and family of Batesburg to Bailey, North Carolina were unanimously passed. Since our meeting Dr. Gibson and family have moved to Bailey, N. C. Dr. Gibson had been here for about eighteen years and was highly esteemed as physician and citizen Supper was served in the Commercial Hotel where most of those present had something in teresting and cheerful to say and Dr. Gibson made his parting remarks and all wishing him .. One of four Vice presidents Dr. James Cros son Tof Leesville and Missi Josephine Copeland

W. P. Timmerman, M. D., Reporter.

PEDIATRIC SOCIETY HOLDS ANNUAL MEET-ING JANUARY 15, 1929

of Ehrhardt were married the twentieth of

December 1928.

Cordial indorsement of the investigations carried on by the food analysis commission and declaration that it "stands ready to support in the name of the children of South Carolina and of the United States" were set forth in resolutions adopted yesterday at the annual meeting of the South Carolina Pediatric society, held at the Medical building. The resolutions also set forth that "the funds appropriated by the legislature for this work we believe will be of inestimable bench to South Carolina from an economic standpoint."

The preamble to the resolution, offered by Dr. D. F. Smith, Spartanburg: was, "Whereas, Dr. William Weston, one of the distinguished members of the Pediatric society, has brought to the attention of the world the relatively high iodine content of South Carolina grown products and thereby added tremendously to the scientific discoveries in the domain of nutrition," and then follows the resolution indorsing the work of the food analysis group.

The meeting was presided over by Dr. C. W. Bailey, Spartanburg, president, and after clinics by Dr. William Weston, Jr., chairman of the clinic committee, case reports were made by Doctor Bailey, Dr. E. W. Barron, Columbia; Dr. W. E. Simpson, Rock Hill; Dr. William Fewell, Greenville.

At the business session Dr. E. A. Hines, Seneca, was elected president; Dr. T. D. Dotterer, Columbia, vice president; Dr. R. M. Pollitzer, Greenville, secretary and treasurer, re-elected.

After luncheon at the Jefferson, papers were submitted by Dr. J. B. Sidbury, Wilmington, N. C., Dr. J. I. Waring, Charleston, and Dr. H. D. Wolfe, Greenville.

The society will hold its next meeting next January in Columbia.—The State.

TO INSURE UNIFORMITY Specify Tablets Digitalis Standardized Whole Leaf Bederle

AFTER years of study by the New York Cardiac Clinics, their choice of digitalis products is a tablet made from whole leaf having a potency of one Cat Unit in one and a half (1½) grains of the powdered leaf.

The Lederle tablets were developed as a result of this work. Only digitalis leaf which has been clinically demonstrated to possess uniformity of action is employed in the preparation of the Lederle tablets. To ensure this uniformity, a supply of powdered leaf is standardized sufficiently large to last for several years; and when 5 to 10% of this quantity has been used, a like amount of standardized powdered leaf is added to the remaining stock. By this method, there can at no time be any appreciable variation in the clinical results obtained.

Treatise on Digitalis Therapy and samples to physicians upon request

LEDERLE ANTITOXIN LABORATORIES NEW YORK

SITUATIONS WANTED

WANTED: Salaried Appointments for Class A Physician in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoc's National Physicians' Exchange, 30 North Michigan. Chicago. Established 1896. Member The Chicago Association of Commerce.



LET US COLLECT YOUR SLOW ACCOUNTS FOR YOU.

COMMISSIONS AS LOW AS 25%. NO OTHER CHARGES.

Endorsed by American Medical Association and State Societies. References: Bradstreets; Chamber of Commerce; Commerce Trust Co. or publishers of this journal, Satisfied clients everywhere SEND FOR LIST BLANKS

Physicians & Surgeons Adjusting Association RAILWAY EXCHANGE BUILDING, KANSAS CITY, MO.



LEPROSY IN UNITED STATES

Ralph Hopkins and Oswald E. Denney, Carville, La. (Journal A. M. A., Jan. 19, 1929), have made a statistical study of 718 lepers hospitalized over a period of thirty-four years in the Louisiana Leper Home—later the National Leprosarium. Two hundred and fifteen were foreign born and 503 were natives of the United States. The present population of the hospital is 287. Mexico, China, Italy, Greece and the Philippine Islands have furnished one half of the total foreign born. Most of the lepers came from Louisiana, California, New York, Texas and Florida; 418 came from Louisiana. The incidence of leprosy among the white population of Louisiana is computed as twice that in the negro population. Of the total cases, 11.0 per cent were of the nerve type., 39.1 per cent of the skin type, and 49.9 per cent of the mixed type. Of the total cases, 72.3 per cent were in males and 27.7 per cent were in females. The social status of the patients represents a cross-section of the normal populace. The average age at onset of the disease is computed at 30.2 years; the average age on admission to the hospital was 36 years, with an average period of six years prior to admission during which each patient may have been a menace to public health. In a group of 100 Louisiana lepers, hospitalized more than fifteen years ago, it has been disclosed from subsequent records that in sixty-four instances only one leper in the family developed the disease, while in the thirty-six other instances leprosy occured in eighty-three ditional relatives. In some familes the disease has invaded certain branches to the point of extermination. Instances of familial transmission have also been noted in cases from other states than Louisiana. It has not invariably happened that the parent became infected before the child; indeed, the reverse frequently occurred. Intimate contact over a period of time extending into years has been concurrent in most instances of familial transmission; in many cases, multiple contacts also existed. In five cases, the incubation period is calculated as not less than six years. The first manifestation of leprosy was recalled by most patients as one or more spots appearing on the face; in no instance were conditions described that might be identified as prodromal symptoms or as the initial lesion of leprosy. Aside from the increased number of cases developing in males at about 21 and in females at about 19, and the counterbalancing rarity of leprosy before the age of 0, the disease appears to manifest itself at all ages about equally. The duration of leprosy is computed as approximately fourteen years. It appears that leprosy greatly shortens the life expectancy of the young but has less effect on the life expectancy of the aged. The mortality rate has gradually decreased in the hospital since its organization. Leprosy per se has been the cause of death in less than 20 per cent of the lepers; respiratory, renal and cardiac disorders indirectly dependent on leprosy have caused more than half the deaths. Before rigid rules for paroles were promulgated, relapses in discharged patients were not uncommon; but in the last seven and one-half years, twenty-eight lepers have been paroled and only one has suffered a relapse and been readmitted.

RENAL, BACK PRESSURE

Henry A. R. Kreutzmann, San Francisco (Journal A. M. A., Jan. 19, 1929), concludes that the cause of upper urinary tract dilatation in obstructive lesions of the bladder neck and urethra in adults is a stenosis of the intramural portion of the ureter. This constriction is due to hypertrophy of the bladder muscle. When reflux is present, the increased intravesical pressure tends to keep the upper urinary tract dilated to its maximum. After removal of the urethral obstruction, the bladder wall loses its hypertrophy, the stenosis disappears, drainage is improved, and the ureters and kidney pelves return to normal.

STALKING THE FOOD FADDIST

It is time for common sense, aided by sane medical and scientific opinion, to put an end to dangerous dieting fads.

Eminent doctors of medicine are making it hard for the food faddist to maintain his hold on the credulity of the American public. Dr. Morris Fishbein, in "Your Weight and How to Control It," says: "Of all the fads which have afflicted mankind, none seems more difficult to explain than the desire of American women for the barber-pole figure." Other authorities, in the same volume, warn of the permanent injury likely to result from starvation diets.

Dr. Solomon Strouse, Associate Professor of Medicine at Rush Medical College, in his address at the New York

Academy of Medicine, as quoted by the Evening World, said: "I am beginning seriously to wonder whether scientific efforts at diet control based on animal experiment are not overshooting the mark; whether we are not interpreting the life of a caged white rat rather too seriously for the comfort of a free white man." He went on to say that "food and food habits in general play no important role in the attainment of longevity. . . . Despite much that I read of the evils of the modern way of cating and living, I find in actual practice comparatively few examples of excessive food indulgence to the point of harm. . . . It is possible to conceive of undernutrition causing more trouble than overeating."

The trend of modern dieting thought is that



human beings should not only eat a variety of healthful foods, but enjoy them. It is a well-known fact of human psychology that few people will force themselves very long to eat foods that they do not like. As a food scientist says, "It is sugar which

makes it possible for us to eat and enjoy the roughage foods, the vitamine foods, and foods rich in mineral salts." Fruit flavors are developed by sugar. Sugar facilitates the ingestion of fruits, cereals and vegetables.

An eminent biological chemist refers to sugar as "Nature's incomparable flavoring agent." "Sugar," he says, "is the thing which makes the deadly dullness of our overly refined foods palatable. Another thing, it is wholesome."

It is time for common sense, aided by sane medical and scientific opinion, to put an end to dangerous dieting fads. There is no substitute for sugar in the diet. It has its needed place. Appetizing cookery revolves around sugar. The Sugar Institute, 129 Front Street, New York.

The Journal

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act March 3, 1879. Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized Amenst 2, 1918.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J H CANNON, M. D., F. A. C. P., Charleston, S. C.

PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. E OBSTETRICS AND GYNECOLOGY

R. E. SEIBELS, M. D., Columbia, S. C. UROLOGY

Annual Subscription, \$3 00

W B. LYLES, M. D., Spartanburg, S. C. ROENTGENOLOGY

T A PITTS, M. D., Columbia S. C. PATHOLOGY AN' BACTERIOLOGY

F. M. ROUTH, M. D., Columbia, S. C.

SURGERY

- J. S. RHAME M. D. F. A. C. S., Charleston, S. C EYE, EAR, NOSE AND THROAT
- J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY
- J RICHARD ALLISON, M. D., Columbia, S. C. GASTRO-ENTEROLOGY AND PROCTOLOGY
- W. T. BROCKMAN, M. D., Greer, S. C.

EDGAR A HINES, M. D., F. A. C. P., Editor-in-Chief, Seneca, S. C.

- NERVOUS AND MENTAL DISEASES
- E. L. HORGER, M. D., State Hospital, Columbia, S. C.

MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

THE SIM'S MEMORIAL NEARS COMPLETION

As will be noted under the Woman's Auxiliary Department of the Journal the total funds collected from all sources for the erection of a Memorial to Dr. J. Marion Sims, the preeminent surgeon born in South Carolina and honored throughout the world, amounts to six thousand, seven hundred and twenty-eight dollars and twenty-two cents. Contributions continue to come in and are very acceptable as will be noted in the report of the Treasurer. While the original goal was set at ten thousand dollars, nevertheless it is believed that by fortunate contracts and wise leadership the finished Memorial to be placed on the State House grounds in Columbia will prove to be satisfactory from every standpoint. The Woman's Auxiliary and the South Carolina Medical Association are to be heartily congratulated on the splendid results attained in the prosecu-

tion of the campaign. When finally unveiled and with befitting ceremonies the achievement will stand before the world as one to be honored and emulated wherever scientific ideals and the alleviation of human suffering found. It is worthy of deserved recognition that many lay friends took an abiding inter est in the proposition as time progressed and contributed liberally toward the consummation of the purpose in hand.

TITLES OF PAPERS COMING IN

Since the publication of the notice to the effect that the Scientific Committee was ready to receive titles of papers to be read before the State Medical Association meeting, May 7, 8, and 0, some ten or twelve have been received. The program will be limited to twenty papers with the major part of the meeting in Charleston devoted to clinics. It is highly desirable that members intending to submit

titles should do so at the earliest possible moment in order that the Scientific Committee may have ample time to plan the grouping of the papers and also to provide for discussion on them. The latter feature has been significant accomplishment of the meetings in recent years. The officers have seen to it that able men are invited to discuss papers and that they be provided with suitable abstracts long enough before-hand to insure careful deliberation as to what they are going to say. Such a course adds tremendously to the solidarity of any scientific program and gives assurance to the membership that nothing has been left undone to make a complete well rounded meeting. As time has gone on the Scientific Committee endeavored to bring about greater limitation of the volume of papers read but an increase of the discussions on the floor. It is gratifying that so many members have approved of this plan. In addition an enlarging scope of clinics has been in the minds of the officers of the Association to be very greatly amplified at the Charleston meeting.

SPARTANBURG SOCIETY HAS SPLEN-DID MEETING

The Secretary-Editor attended the first meeting of the year of the Spartanburg County Medical Society and found the members enthusiastic over the outlook for the year 1020. Dr. Sam Orr Black is the new President and Dr. W. M. Sheridan the new Secretary-Treasurer. This Society has about sixty members at the present time with an eligible list approximating one hundred doctors. A campaign for new members will shortly be inaugurated and the Officers of the State Association will take part in the publicity details. ciety meets regularly in the magnificent General Hospital. We publish elsewhere a report of the January meeting and wish to call attention to the admirable papers read and particularly to the very practical discussions all indicating that the Spartanburg profession is keenly alive to the progressive ideas in the care of sick. The Society will have a great meeting in March to which there will be a large number of physicians from surrounding counties invited. A distinguished surgeon from

another State who has had an unusually large experience in industrial surgery will be the guest of the Society. Other features, of course, will add to the keen interest of the occasion.

DEATH OF DR. W. A. WALLACE

The untimely death of Dr. W. A. Wallace of Spartanburg removes one of the well known and active practitioners in the upper part of the State. Dr. Wallace has been honored by the Spartanburg County Medical Society at different times and in 1927 was President. Dr. Wallace was a comparatively young man, only forty-seven years old, at the very zenith of his usefulness as a professional man and as a citizen. The South Carolina Medical Association thus sustains a keen loss in the passing of one of its very promising and active members.

PAYMENT OF DUES

The fiscal year of the State Medical Association closes December 31. It is highly desirable that dues be paid as promptly as possible before the State meeting. Kershaw County has often been the first to send in dues in the New Year and we are glad to announce has done so this year. It should be recognized that the members owe a duty to the Officers of the County Medical Society to respond with reasonable promptness to the calls for payment of dues. Most of the Secretaries and Treasurers are very busy men and if the members consider this fact and pay their dues early in the year the entire machinery of the County and State organizations will move forward more smoothly and efficiently than otherwise would be the case. It must be said greatly to the credit of the South Carolina profession that there has been little trouble on this score. There are each year a number of delinquents who with a little forethought might avoid dropping out of the paid up class. Practically none of them intend to let their dues drop so even if the Secretary fails to make urgent and repeated requests such members should send their checks to the local officer and thus keep in good standing. For the most part the Secretary-Treasurers of the County Medical

Societies in South Carolina are a splendid body of willing workers as is evidenced by the fact that very few changes occur when the time for election comes around. We should therefore cooperate to the fullest extent in helping these officers carry on their official duties.

ORIGINAL ARTICLES

****______

*TREATMENT OF CANCER

By J. Richard Allison, M. D., Columbia, S. C.

The treatment of cancer is a subject far too large to be covered thoroughly in all it's details in a paper of this type. We will confine our discussion, therefore, to an outline and criticism of the average physician's knowledge of cancer and it's treatment, in contrast to the most progressive and accepted methods of the leading men of the world who are treating cancer.

The American Society for the control of cancer in it's propaganda work has done much to further the advancement of cancer therapy; their aim is to teach the public that the most effective way of dealing with cancer at the present time is based upon the fact that it is to some extent preventable and in it's early stages curable. In other words we are still limited in our efforts in the control of cancer, to it's early diagnosis and early treatment. To send cancer patients to the physician is only a part of the society's aim. They also propose to instruct the physician as to the best method to pursue in the treatment of cancer.

There has been found among the average physician a woeful ignorance and pessimism on the subject of cancer therapy. A certain group think that all cancer patients are doomed to die—they are not interested in precancerous lesions and the best methods of their removal—they are apt to advise their patients to leave well enough alone, that interference may cause trouble. This pessimistic attitude of the physician is the greatest single factor in the continued prosperity of the cancer quack, for these reasons, his headlines—"curing cancer without the knife" or "take it

out by the roots" still flourishes. The physicians therefore who are pessimistic and without the proper knowledge of the present status of cancer therapy are indirectly lending aid to the cancer quack. Another fact which has contributed to this ignorance and pessimism has been the great difficulty experienced by the general practitioner and internist in arriving at any exact knowledge of the results of cancer therapy because of the conflicting claims of those treating cancer. We come now to the criticisms of those treating cancer.

Since the introduction of x-ray and radium in the treatment of cancer more than 25 years ago, there has been a continued controversy between radiologists and surgeons as to the best method of treatment. In an effort to eliminate this controversy national and international conferences have been held, as for example, the Lake Mohonk Conference, where the leading Cancer Specialists of the world gathered for a free exchange of ideas and experience. Such efforts have shown that much can be done to advance cancer therapy by dissemination of knowledge and the proper cooperation of those treating cancer. Information and conclusions from such sources should be our guide in the future. Do not be guided by the surgeon who resents the fact that radiologists and dermatologists have taken a great portion of the cancer cases from him; who treats all cancers by surgery; who refuses to combine both methods where indicated; who operates on inoperable cancers for surgical experience and surgical fees; and who increases his cancer mortality and human suffering by operating on hopeless cases that should receive palliative treatment with other methods. Such surgeons are a distinct detriment to cancer therapy and causes cancer patients to fall into the hands of cancer quacks. Dr. Mayo says "that the proper treatment of cancer depends

^{*}Read before the South Carolina Medical Association, April 18, 1928, Columbia, S. C.

on the combined efforts of the surgeon, the radiologist, and the pathologist, in evolving methods adapted to each patient rather than adapting all patients to one method of treatment."

On the other hand equal criticism can be laid to the dermatologist and radiologist. The introduction of radium and x-ray in the treat ment of cancer was soon followed by claims of wonderful cures by these agents. For 25 years there has been a constant controversy as to their real value. The extravagant claims of x-ray men have been of first importance in prolonging and intensifying this controvery. For this reason many surgeons refused to accept these agents, simply because they could not work with, or countenance the methods and claims of the radiologists. In many instances the method of treatment in the past has been decided entirely by whether or not they fall into the hands of the radiologists or the surgeons, and not by intelligent and thoughtful study as to the best method of treatment. There has evolved gradually from this mass of controversy and conflicting claims a better understanding and more cooperation between the surgeon and the radiologist. The combined efforts of cancer conferences, propaganda societies, and large research institutions, together with more reliable statistics from radiologists, and the increasing knowledge of the dosage and limitations of x-ray and radium, all have been conducive to a better understanding of the problem. The leaders therefore in cancer therapy are concluding that each has it's place, and you are advised to take your cancer patient to the man who is best equipped and trained to treat cancer according to these advanced ideas; avoid the narrow minded and prejudiced physician, whether he be Dermatologist, Radiologist, or Surgeon.

Other methods are being studied by research workers in the cancer problem. Our present accepted methods are all purely destructive and depend upon early diagnosis, localized cancer, and the possibility of the entire removal of the cancer tissue. The method of research by Dr. Slye, that is attempting to approach the problem from an immunization standpoint may be the final word in cancer. She has been successful in breeding animals who are immune

to cancer under the most unfavorable conditions. The Blair Bell method of treating cancer with colloidal lead has a possibility, but is still in the experimental stage. This method must await the discovery of a less toxic lead preparation as the treatment of syphilis by arsenic was delayed until the discovery of 606. Dr. Gye's work in London on the filtrable virus which he has discovered as the cause of certain animal cancers, is another possibility. Other methods and sources of information that are being studied by cancer research workers are of interest to us, but only of interest in the hope that they may ultimately find the cause and cure of cancer and not that we should accept their methods while still in the experimental stage. In the meantime avoid the wonderful methods of your doctor neighbor or friend who has a wonderful cancer cure, discovered and practiced by himself alone; if he knew as much about cancer as he claims to know he would not be your neighbor, he would be in some large cancer research institution. The known and accepted methods then of treating cancer are by surgery, x-ray, radium, and electro-thermic destruction. A brief outline in a general way will now be attempted.

Cancer of the skin: The majority of these cancers are not very malignant, especially the basal celled cancers. Moles, warts, keratosis, and benign cutaneous growths are considered precancerous lesions and are left to the dermatologist to treat with very few objections. The Dermatologists have a better understanding of such lesions and are more apt to see them in their early stages. Practically the statistics on such types of lesions reported today are by Dermatologists and Radiologists, which goes to prove that among the leaders there is not much controversy in the treatment of these lesions. The leading Dermatologists report practically 05% cures with x-ray, radium and electro-thermic methods; the details and methods of treatment will not be attempted in this paper. The squamous celled cancers are the malignant ones and cancers of the mucocutaneous areas and mucus membranes proper, such as the lips, tongue, mouth, eyelids, and other areas are still more or less in the controversial stage. The Radiologists and Dermatologists are almost without excep-

tion claiming that these conditions are best treated by them in the early stages. When localized they claim that with their destructive methods there is less mortality, less scar formations, and less chance of disseminating the cancer cells. any leading surgeons today are having such cancers treated by these methods; there are still surgeons, however, who perform extensive operations for cancers of the lower lip, extensive and mutilating operations for cancers of the mouth and tongue, while other surgeons themselves use or have someone else use electro-thermic methods, in combination with x-ray or radium. Where there is evidence of metastasis, local destruction with blocking dissection of the involved regions is generally practiced. No set rule, however, can be followed. The method in each particular should be decided jointly by the surgeon and radiologist. Also cooperation in such cases can save much suffering, and distinctly enhance cancer therapy. The surgeon and radiologist who do not work together naturally are not suited to treat cases in which the exact method must be decided in each individual case. Patronize those, therefore who are willing to cooperate in finding the best method for the patient and not for the doctor.

Cancer of the breast pre-eminently belongs to surgery. It is believed that the majority of the surgeons today advise post-operative x-ray therapy, especially in those cases which have glandular involvement. Dr. Mayo says "we use radiotherapy after operation in those cases in which it is suspected that the growth has not been thoroughly removed." Dr. Francis Carter Wood says "that he has never seen a skin recurrence of the cancer of the breast following surgery that had been properly radiated. Also in deep and mediastinal metastasis while the patient is not cured, x-ray should be employed, for often an astonishing amount of comand apparent prolongation of life is obtained, even in those cases of pleural involvepresence of recurring ment, shown by the hemorrhagic exudate."

Cancer of the stomach, intestines, and all internal cancers belong to surgery. It is a question to be decided in each individual case, whether or not x-ray is to be used following surgery. It is the duty of the surgeon to

maintain an unprejudiced mind as to the place of the x-ray in these cases. The best of opinions seem to be willing to give deep x-ray therapy a place in the treatment of these cases. but is opposed to the general use of deep therapy to the exclusion of surgery. The great wave of enthusiasm originating in Germany several years ago in which extravagant claims were made for deep x-ray therapy has not flourished in this country. Without going into the details and conclusions of what deep therapy can do we can conclude with other authorities that it has a place in certain types of cancer and in such cases should be employed at the instigation of surgery. It is well known that certain types of cancers, particularly the extreme cellular type, as for example, endotheliomata and lympho-sarcomata, and many of the sarcomas of the bone all of which usually considered poor surgical risks are very susceptible to radiation. Wood says, "that the surgical radiation system of these borderline cases is a question that must be answered individually and entirely by the situation and nature of the cancer, and by the facilities that are at hand for their treatment." Deep x-ray therapy therefore has it's place in the treatment of many internal cancers.

In cancer of the cervix, the majority of opinions I believe favor radium needles followed by general x-ray. Cancer of the body of the uterus should be treated surgically followed by x-ray. Cancer of the bladder is also accessible to radium and fulguration, and many cases are being successfully treated by these methods. In this day of extreme specialization, cancers of different locations are first discovered by specialists. Specialists of all branches of medicine should be well informed of the early signs of cancer in their particular fields. If not equipped to carry on the proper method of treatment, they should at least be honest enough to turn over the treatment to those who are equipped. Cancer of the bladder instance-many cases are being treated successfully by urologists with radium and fulguration. Eminent urological surgeons, like Dr. Squires of New York reports as high as 33% 5 year cures by extensive resection of the bladder. The ordinary urologist and the ordinary general surgeon in all probability cannot claim such wonderful results. In such cases the best method at hand should be used, which in many instances is radium and fulguration.

It is seen from the above brief outline that a few of the cancers have an accepted method of treatment definitely decided by the majority of leading men practicing cancer therapy, and that on the other hand there is a group of border-line cases about which there is still much controversy. Dr. Semken, Surgeon of the New York Skin and Cancer Hospital, says "in your advice to the cancer patient, you have two guides. One is an adequate knowledge of cancer-experience so that he may know what each method of treatment has implied and how rational is its bases; the other guide is his conscience." Unfortunately he says, "frequently neither of these guides are consulted." He condemns strongly radiological treatment of cancer that could be successfully removed by surgery, and on the other hand he equally condemns operations on inoperable cancers that should be treated palliatively by x-ray radium.

I come now to the end of my argument. In your criticisms of this paper, please bear in mind the object as stated in the beginning, that it is a plea for the proper understanding and coordination of the known methods at hand and as practiced by real cancer specialists.

DISCUSSION

Dr. R. B. Taft, Charleston: Dr. Allison has chosen an enormous subject, and I think he has covered the matter excellently. He has said there is a great deal of controversy between surgeons and roentgenologists in regard to the treatment of cancer. I am one of the few roentgenologists who have very little contest with the surgeons. I believe surgery is the best treatment for cancer, in the majority of cases. Of course, I have to modify that statement. In these little cancers on the face, on the lip, etc., I think radiation is the better treatment; and in deep-seated cancer of the stomach, esophagus, etc., radiation offers a very good chance either of arresting the disease or at least of stopping the pain. Radiation therapy has been in use just about my lifetime. One peculiar fact may be noticed; the results obtained ten or fifteen or twenty years ago were just as good as we get now. What is the explanation of that? It is that once in a while, just by chance, we are hitting upon the right kind of radiation

for the particular kind of lesion. The radium rays and x-rays are made up of many different kinds of beams packed up in one bunch. Probably each one of these rays has its effect on a particular type of carcinoma, and it is only by elaborate experiment and research that we shall be able to differentiate. Rather than spend too much time theorizing, however, I think we shall do better now to concentrate our efforts on these two methods, choosing which seems to be the rational one and remembering, as Dr. Allison brought out, that there is no one rule by which we can solve this problem of a disease which for many thousands of years has jeopardized the human race.

Dr. James S. Fouche, Columbia: I think "A plea for cooperation in the treatment of cancers" would be a more appropriate title for Dr. Allison's paper. It is an extremely timely subject for those of us who do not take any part in the treatment of these unfortunates but who like to feel that we are directing our patients in the right channels for the particular type of malignancy. I can not help but feel that the one who treats all cancers by the same method deserves the title of "cancer specialist," which to my mind (as well as to many others, I think) denotes narrowness, selfishness, and quackery, whether he be radiologist, dermatologist, or surgeon. I think this is the important lesson taught us by this paper; and I think it is very important that the internist, at least, should familiarize himself with the value of each type of treatment that can be adapted to the individual case at hand, that he may intelligently advise his patient the course to pursue, whether it be surgery, radium, or x-ray. If either one of those methods would cure all cancers regardless of type or location, then the last word would have been said in the treatment of cancer; and further discussion would be superfluous. Unfortunately, this is not the case. But all these methods have their place; and, as Dr. Allison has well said, the type of treatment must be adapted to the individual patient and not the patient to the individual treatment.

Dr. Arthur W. Browning, Elloree: With all these specialists talking I feel a little timid, but for the last thirty-five years I have heard this subject discussed. It has been said that the great majority of deaths from cancer may be laid at the door of the physician—not the family physician, notice. It is a question of education, and I think it is the concensus of opinion that the best way to cure cancer is to remove it before it becomes cancer. Do not temporize. When I was at the Mayo Clinic I heard Dr. Mayo so state. Now, my friends, these men got me a little balled up here talking about treating cancer. Let's not have to treat it; get them out, remove them be-

fore they become cancers—tell your patient honestly that the growths—ulcers, etc., may become cancerous and urge them to have them removed.

Dr. W. L. A. Wellbrock, Mayo Clinic, Rochester, Minn.: I enjoyed Dr. Allison's paper, and it seems to me that all through it he is emphasizing early diagnosis. I think today the greatest need in the cancer problem is its early recognition. Dr. MacCarty, of the Mayo Clinic, has been for many years stressing the need for early diagnosis and especially emphasizes it in the relationship of chronic gastric ulcer to cancer of the stomach. If the malignant tumor is recognized early, before any glandular involvement has taken place, certainly the prognosis is much better. Early cancer or malignant change is best recognized in fresh tissue, which makes it necessary for the pathologist to have his laboratory near the operating room, where he can act in the capacity of consultant in treatment of the case.

Dr. McLeod talked in his discussion of the value of grading cancer according to Broders of the Mayo Clinic. This grading is based chiefly on the cellular differentiation; that is, the nearer the larger number of cells approach the normal cell in appearance, the lower the grade; the larger the number which show the least amount of differentiation, the higher the degree of malignancy. The grading is on a basis of 1 to 4. In certain localities cancers are usually of the higher grade, as in the cervix, which is usually grade 3 or 4; the breast and rectum are usually grade 2. By the grading of cancer an attempt is made to prognosticate and direct treatment.

Dr. T. M. Davis, Greenville: I want to express my appreciation to Dr. Allison for his paper. The cancers of the bladder that I have seen have always come to me late, because the general practitioner has always treated them as cystitis for a considerable length of time, with medication and sometimes irrigation; and when they are referred he is surprised to learn that they are malignant. That should warn the general practitioner, when cystitis cases do not respond in a very short time, that he should have them examined, because some of them are malignant conditions. Dr. Keyes, Dr. Allison states, is having wonderful results from resection of the bladder. The cases that I have seen it would be impossible to treat with resection, unless we transplanted the ureters, for they are around the ureteral orifice. The ones I see in this part of the country are not amenable to resection.

Bumpass, of the Mayo Clinic, in Surgery,

Gynecology and Obstetrics, August, 1926, reported a series of cases in which the expectancy of life in patients with carcinoma of the prostate gland was eighteen or thirty-six months longer where the prostate was not removed and suprapubic drainage done than where it was removed. Those cases in which it was removed died of carcinomatosis. After they reach the stage at which you can make a diagnosis it is far better to resect to relieve obstetrics and use irridation.

Dr. James McLeod, Florence: I think Dr. Allison is to be commended for bringing this all-important question to our attention and for giving us a good, brief summary of the present most acceptable methods of treatment. I believe one of the chief keynotes in the cancer problem at the present time is that of education, and by education I mean education of the public and likewise education of the doctors. In proportion as this is accomplished will results be achieved. We are seeing in our clinics far too many advanced cases of cancer. We are seeing more early cases than formerly, but not as many as we should.

I do not believe there is a problem in medicine where a more earnest cooperation is needed between the pathologist, the radioligist, and the surgeon than in the treatment of cancer. The role of the pathologist is highly important, and his opinion should be the foundation upon which the efforts of the surgeon and radiologist are based. Such a study should be had wherever it is practical to obtain a biopsy. The pathologist now has a method of grading malignancy according to the percentage of undifferentiated cells present microscopically. The more undifferentiated cells present the higher the degree of malignancy. This is of great benefit in determining the method and vigor of attack. Broders outlined this classification and I feel that it is of distinct value.

Time will not permit me to go into detail, but I should like to say that the cancer problem resolves itself at the present time into education; and the need is for early diagnosis. I think it is by such papers as the one Dr. Allison has read that this will be accomplished.

Dr. Allison, closing the discussion: I have nothing further to add. I feel the paper has attained the object for which it was written, and that was to stimulate discussion on the coordination of cancer therapy. To impress on the general practitioners, the surgeons, and the internists the importance of coordination and early treatment.

*VINCENT'S INFECTION OF THE MOUTH AND THROAT

By F. M. Routh, M. D., Columbia, S. C.

In 1806, Vincent described a pathological condition occurring in the throat that has since been designated as Vincent's Angina. In this condition, he found constantly present, two morphologically different organisms, the Fusiform Bacillus (cigar-shaped), and a Spirillum, since called the Spirillum of Vincent, Morphological and cultural characteristics may found in any standard text book on bacteriology. Vincent noted the presence of the above organisms in cases of hospital gangrene as well as in Vincent's Angina. Castelinni reported spirochetal infections of the lungs as early as 1906. Buday of Hungary, 1910, and Arnheim of Germany, 1911, found these organisms in lung abscesses and pulmonary gangrene. No other advances were made in the study of this disease until the World War, when its prevalence was enormously increased among the French and British troops, manifesting itself more as a Gingivitis than an Angina. This infection became popularly known as "Trench Mouth."

The disease was practically unknown in this Country until after the World War. Tunnecliff in 1906, maintained that the Fusiform Bacillus and Spirillum, were the same organism in different stages of development. Other bacteriologists take issue with this statement and the question is still unsettled. Sequin and Krichewski of Paris, in 1920, took scrapings from buccal lesions and injected material into Guinea pigs, producing lesions and recovering Fusiform Bacilli and Spirilla. Neither of these organisms would produce disease when injected alone. This would seem to be at variance with Tunnecliff's views.

Kline of Cleveland recovered the organisms from pulmonary gangrene, and Kline and Berger from pulmonary abscesses, associated with metastatic brain abscesses; also, in cases of unresolved pneumonia.

Reasoner and Gill report osteomyelitis of the inferior maxillae. Genito-urinary lesions have been reported by Brams and Pilot. Gangrenous infection of the finger in infected persons, by biting the nails, has been reported by Hultgen. Fullwider of Colorado has reported two fatal cases. One a pericarditis, the other involving the larynx, trachea, eosophagus, and stomach.

Pilot and Davis of Chicago, and David T. Smith of Ray Brook, N. Y., have recovered the organisms from pulmonary abscesses, pulmonary gangrene, and bronchiectasis. Smith has found Fusiform Bacilli, Spirilla, Vibrios and Cocci growing anaerobically always associated in these cases. He has produced pulmonary lesions in mice and Guinea pigs by intra-tracheal injections of washed sputum: also from material scraped from the alveolar border of teeth in moderately severe pyorrhoea. The offending organisms have been found associated in traumatic injuries, and pathology caused by tuberculosis, syphilis, cancer and diabetes, and other debilitating diseases. Smith and Pilot and Davis believe that this infection is the etiological factor in bronchiectasis.

The above historical resume is mentioned to give you an idea of the potentialities involved in Vincent's infections. In practically all these pathological entities, the observers have reported finding the organisms in the mouth. That we have mild cases and severe ones, no one will argue. Some writers have mentioned carriers. I do not believe that this infection is ever found in a normal mouth. Certainly, we have mild cases, but there is pathology. Bloodgood has made the statement that he has never found the organisms in the mouths of patients whose teeth and tonsils have been removed. This would indicate that the gums and tonsils afford opportunities for these germs to thrive.

SYMPTOMS: Mild cases are usually seen first by dentists. Burning mouth, sore gums, red gums, spongy, bleeding gums after brushing teeth, characteristic foul breath. Some of these cases may not have any perceptible symptoms, but are discovered in routine dental examinations. This type of case is sometimes referred to as a carrier. There is usually lassitude and some loss of appetite.

MODERATELY SEVERE CASES: The above symptoms are intensified. There may

^{*}Read before the District Dental Society at Columbia, S. C., October 4, 1928,

be ulcerations of the gums, tonsils, pharynx or tongue, associated with excessive salivary secretions, extremely foul breath, headache, general malaise, swollen glands or perhaps a diffuse cellulitis, and usually painful swallowing.

SEVERE CASES: Unfortunately, the severe cases are almost always due to trauma incident to ill-advised treatment, namely, extraction of teeth, or incision into diseased tissue. More discussion of this will follow in this paper.

DIAGNOSIS: A careful history and a careful examination will always excite suspicion. The gums are intensely red and spongy. There may be a greenish-vellow pseudo-membrane which is easily detached from the surrounding tissue, and leaves a bleeding surface. The odor is characteristic, and usually very unpleasant. Ulcerations may be found on tonsils or elsewhere in the oral cavity. These are punchedout in appearance, ragged, and surrounded by an extremely red zone. They are very painto touch. The diagnosis is clinched by finding Fusiform Bacilli and Spirilla in stained smears. The membrane, if one is present, should be rubbed off and a smear made from the bleeding surface for examination. surface hard with sterile cotton-tipped applicator, and then apologize to the patient for being rough. Sterling's Gentian Violet on fixed smear for 30 seconds will give a beautiful picture if organisms are present. I have been informed by two research workers heretofore mentioned, that in lesions of the lungs, that this stain will not show the Spirilla, but I have personally demonstrated them in pus from a lung abscess and sputum from a bronchiectatic cavity.

PREVENTION AND TREATMENT: In considering the foregoing statements, it is quite evident that the question of oral hygiene is the sine qua non in prevention. Practically all workers are agreed that the teeth and gums are the first portals of entry of the causative factor. We see reports of so-called epidemics of Vincent's infection, but in the strict sense of the word, does it really appear in epidemic form, or are there other factors that contribute to its appearance? It is transmissible, of course, and all known methods of preventing the spread of disease should be practiced. Pa-

tients should be warned to avoid kissing, or in other ways, subjecting uninfected friends and relatives to the disease. We have stated that it is particularly prone to occur in debilitated people—those who have diabetes, tuberculosis, cancer, syphilis, etc. Is not excessive exposure or a diet deficiency sometimes etiological accessory? We know that scurvy, pellagra, and beriberi are greatly influenced by diet. This disease may be another instance. This might easily explain the increased incidence during the War. Crowded conditions in the cities, and exodus from the farms, increasing the consumption of canned goods, and decreasing the consumption of fruits and fresh vegetables, may explain in some degree increasing incidence. This explanation lowered vitality, and the overcrowding, particularly in moving picture shows, closed automobiles, etc., certainly aids materially in opportunities for exposure to this and various other infections. To the dental and medical professions, lies a serious responsibility. all see entirely too many victims of oral surgery without adequate and safe preparation. The profession of dentistry and that of medicine should have a closer bond of cooperation, and more frequent consultations would redound to the general public's good.

Just what the explanation is of an apparently healthy person, who, 3 or 4 days after the extraction of several teeth, suddenly becomes seriously ill with chills, fever, rapid pulse, and other evidences of a severe toxemia, no one for certain knows. We have found Spirilla and Fusiform Bacilli in many of these The oral cavity frequently harbors cocci, diplococci and bacilli, and as some of these are usually associated with the explosive severity of the disease is due to the toxemia of all the organisms in a symbiotic combination, or the Vincent's organisms or the cocci. Blood cultures in our experience have been negative. Anaerobic cultures should be made. This question is more or less academic, because we do know that this entity may be obviated by a careful preliminary treatment, and by extracting only 1, 2 or 3 teeth at a time. Patients, particularly if somewhat rundown, should have a careful physical examination before any extensive oral surgery is attempted. If the hemoglobin is low, efforts should be made to build it up, thereby increasing his resistance, before anything radical is done. If extractions are necessary, they should be postponed, particularly if Vincent's organisms are present, until this infection can be cleared up. Would it not be a forward step if more dentists would add to their office equipment, a microscope and a few stains, and be prepared to know whether or not their patients for extraction were free of Vincent's organisms? These organisms, when present, are found deeply embedded in the tissues. When they are present, the trauma of extraction presents an ideal environment for these organisms or their symbiotic cocci cousins to get in their deadly work.

TREATMENT: In a survey of many articles concerning the treatment of Vincent's infection, the writer has been impressed with the many therapeutic measures employed. It is his observation also that when such a situation is found, most of the remedies are inefficient. In the treatment of these infections, certain fundamentals must be remembered. We are dealing with anaerobic germs. oxygen to them, and they cannot exist. Sodium perborate, Hydrogen Peroxide, or Potassium permanganate, all releasing a generous supply of free oxygen, are excellent. This treatment should be instituted by the dentist so that all pockets are penetrated. To give a patient a prescription of any of the above named remedies, is almost sure to court failure, and bring reproach to your practice. In this disease, and many others inclined to chronicity, I think the danger of overtreating is great. Irritating applications frequently injure the tissues and prepare the way for deeper invasion of the infection. Most of the drugs advocated are of this kind. There is a strong tendency for the vast majority of infections to get well naturally and without treatment. Frequently, we pat ourselves on the back and think we have found a specific, when as a matter of fact, the condition clears in spite of our treatment. And, again we by overtreating, encourage chronicity. I know of one case of Vincent's infection that lasted 9 years. Every form of treatment was used. In all spirochetal infections, arsenic is practically a specific. Arsphenamine, Neo-arsphenamine, and Sulpharsphenamine are indicated intravenously only when constitutional symptoms are present. The use of intravenous therapy, particularly arsenic, is not entirely without danger, and before its use, certainly we should know about the condition of the vital organs. Topical applications of 2 to 10% solutions of the arsenicals in glycerine is advocated, and evidently has some virtue. Some men use applications in full strength One patient told me that he was never able to control a chronic infection of Vincent's until he stopped drinking. The question of diet, I think is very important. An abundance of fresh fruit, tomato juice, particularly oranges, grape fruit and lemons, should also be taken. The average case will respond to this form of treatment promptly and satisfactorily. It is customary with many practitioners, to resort to arsenic preparations intravenously. This is not good therapy, except in those cases that fail to respond to local measurés. The following cases will illustrate moderately severe and severe cases:

- 1. E. B. B. Male. Age 34. Entered Columbia Hospital complaining of excessive salivation, dysphagia, and inability to close mouth on account of swollen tongue. Cervical glands enlarged. Pulse 110, temperature 103, severe headache. Unable to see in throat on account of swelling. Slight patches on tongue. A smear from end of tongue showed many Fusiform Bacilli and Spirilla. One dose of Neosalvarsan 6. gm. intravenously and a mouth wash of a saturated solution, Sodium Perborate, cured the patient in less than one week's time.
- 2. S. R. Female. College student, age 21, consulted me in 1926 complaining of cough, tired feeling, daily temperature, loss of weight, etc. Physical examination of chest revealed no physical signs, except a slightly prolonged expiration, some increase in whispered and tactile fremitus. An X-ray of the chest showed a slight cloudiness at both apices, which the roentgenologist interpreted as incipient tuberculosis. Repeated sputum examinations failed to show any tubercle bacilli, but constantly showed Fusiform Bacilli and Spirilla. These organisms were also found in smears from the gums. A diagnosis of Pulmonary

Spirochetosis was made. The patient was advised to remain in bed until the temperature and pulse became normal. Neo-asphenamine .3 gm. was given intravenously and Sodium Perborate (saturated solution) as mouth wash and gargle. The Neo-arsphenamine was repeated in 3 days. Two days after this, patient's temperature rose to 103, and she developed a typical arsenical dermatitis, which promptly responded to specific treatment. Patient remained in bed one month, gained 15 lbs., and has been entirely well since that time. This is not the history of Pulmonary Tuberculosis which fails to respond to treatment as quickly.

Case 3. C. S. Female, age 31. Entered the Baptist Hospital March 17, 1927, with history of having a sore mouth for 5 or 6 weeks. A dentist pronounced this a case of pyorrhoea. About 2 weeks later, patient had fever, ached all over body and thought it was "flu." Finally a tooth was extracted and in 3 days, she became seriously ill, at which time, she entered the hospital. Patient was well nourished, but extremely pale, and somewhat edematous, especially about the face. Physical examination negative except for this swelling and a few petechial spots on the body, and intensely inflamed gums and mouth. There were ulcerations on the tonsils, and the gum margin where the tooth was extracted was gangrenous in appearance. Breath was extremely foul. Temperature was 103, pulse 130. Hemoglobin 20%. White cells 11,000, and a subsequent examination showed 30,000. A smear from the mouth showed a great many Fusiform Bacilli and Spirilla and cocci. A blood culture was negative; also, blood Wassermann and Kahn tests. The urine showed considerable albumin and many casts. A mouth wash of a saturated solution of Sodium Perborate was used locally, and .3 gm. of Neo-arsphenamine was given intravenously. The referring physican was advised that this was questionable therapy on account of the albuminuria and the patient's general physical condition; but owing to the gravity of the case, it seemed justifiable. Patient was also given a transfusion of 500 cc's of blood, but continued to become worse, and had a complete suppression of urine. She died March 22, 1927.

The above patient emphasizes two important things; one, the danger in employing intravenous arsenical preparations in patients who have kidney involvement, and a failure on the part of the physician and dentist in the case to make a correct diagnosis. Too often do physicians send patients to dentists for extraction without any knowledge of their general physical condition, and similarly, too often do dentists extract teeth when these patients are referred.

*FUSO SPIROCHAETAL DISEASE OF THE LUNGS

By E. W. Carpenter, M. D., Greenville, S. C.

(1)—"Evidence is accumulating from clinical, bacteriological, pathological and experimental studies to indicate that a number of pulmonary conditions previously regarded as distinct diseases are in reality different manifestations of one type of infection. This group includes: (1) pulmonary gangrene, (2) pulmonary abscess (spontaneous and post operative) (3) certain types of unresolved pneumonia, (4) bloody bronchitis, (5) putrid bronchitis and (6) primary bronchiectasis."

"Their common origin is suggested by frequent occurrence of two or more of these conditions in the same patient, thus abscess may exist in one part of the lung and gangrene in another, or a patient with abscess may develop bronchiectasis, and certain types of unresolved pneumonia may terminate in abscess or bronchiectasis."

For several years we have been interested in Spirochetal lesions of the mouth. Our study of these lesions led us to speculate as to the further entrance of these organisms into the respiratory tract and we began to recall patients who had presented obscure chest lesions, which in most instances had been diagnosed tubercular by a process of exclusion, the organisms had never been demonstrated. We recalled some of these patients for further study and kept an eye open for others.

It is an axiom in medicine, that we generally find what we are looking for, so it was not long before we had accumulated a satisfactory

^{*}Read before the South Carolina Medical Association, April 18, 1928.

number of these cases to prove to us that pulmonary spirochetosis is quite common in this State.

We know that the organism is very difficult to eradicate from the mouth once it gains an entrance and its choice of location is in the gums around the teeth and in the tonsils, from these locations it sorties forth and begins to dig in at other areas whenever the environment is good for such activity. The spirochetes presence in the mouth and tonsils contaminate expectorated excretions and thus renders a positive finding of the organism in the sputum of doubtful value. Because of this we decided that uncontaminated specimens must be procured from the bronchi. Bronchoscopy is not an office proceedure and many patients who were in fair health except for a chronic cough would not submit to a hospital study. We solved our problem by using direct laryngoscopy with the patient sitting astride a straight chair with both arms around the back of the chair, the fauces and larynx can be moderately anesthetized, long steril cotton tipped applicators can be readily passed into both bronchi and the fresh specimens studied with special

For many years the English have recognized a form of pulmonary tuberculosis without bacilli in the sputum. In recent years we have seen cases diagnosed as tuberculosis by outstanding clinicans where no bacilli could be demonstrated in the presence of generous expectoration. One of our first cases was referred by a prominent practitioner of this State for study of a suspected esophageal varix, a young woman of twenty who had during three years experienced numerious and copious bleedspells. Her case proved without doubt to be a pulmonary spirochetosis. We submit the following cases as being illustrative:

1. March 25, 1927, Miss L. F., age 20, weight 110. Referred for possible varix of esophagus. Family history negative. Personal history unimportant until three and one half years ago when recurrent bleeding from the lungs appeared, the blood would well up in the throat and had to be expectorated, this would continue with lessening intensity for several days. Frequently had half to one and one-half degrees of temperature. Studied by two outstanding

chest specialists whose conclusion were that patient did not have tuberculosis. X-ray of chest reported negative. After obtaining the above history, which has been abridged, we decided to study the case for spirochetal infection of the lungs. Both lungs revealed pathology at bases, cough has never been a prominent symptom. Direct smears obtained from the trachea and bronchi.

1. Laboratory report on smears.

Gentian Violet and Fontana stains-Numerous Vincents Spirochetes and Fusiform bacilli. Numerous Pneumococci, few streptococci. Gebbetts stain—Negative for Tubercle bacilli

2. Smears from the Trachea and Bronchi.

Gentian Violet and Fontana stains—Vincents spirochetes and numerous fusiform bacilli. Numerous pneumocci, few streptococci. Gebbetts stain—Negative for Tuberculi bacilli.

X-ray report: Dense inflamatory infiltration at base of both lungs which suggests post flu result. Mediastinitis marked on both sides. Upper right lobe in second interspace shows a very slight tuberculous infiltration which does not suggest activity. Thickened interlobular on right side. September 1, 1927—Weight 120, no further free bleeding but an occasional small streak of bright blood in sputum.

3. Laboratory report—Fontana stain—Rare Vincents Spirochetes and few Fusiform Bacilli. Gentian Violet—Rare Vincents Spirochetes and few Fusiform Bacilli. Grams stain—Pneumococci and some miscellaneous bacilli. Gabbetts stain—Negative for Tubercule bacilli. This patient is greatly improved and continues under active treatment.

Case 2. Mr. H. L. D., age 22. Two years ago had hemorrhage from the lungs about a teacupful. Previous to this time had no cough, had not lost weight and was working every day and feeling well. Took rest cure of six months and gained only seven pounds. Free from symptoms until two weeks ago when coughed up 2-3 mouthfulls of blood and bright bloody stained sputum for several days after. Had several sputum examinations and no tuberculi bacilli ever found. Has pathology in lungs at bases. Laboratory report of slides

made from direct smears from the trachea and bronchus.

1. Occasional fusiform bacilli seen. Approximately $\frac{1}{2}$ dozen Vincents found on examination of six slides.

Fontana stain—Fairly numerous spirochetes. Gentian Violet few fusiform bacilli. No spirochetes seen (The spirochetes found with Fontana stain were too delicate to be found with Gentian Violet).

Case 3. Mr. L. H., age 28 years. Seven years ago had severe bronchitis followed by pulmonary hemorrhage. Was diagnosed tuberculosis and for many months was an invalid and treated in a sanatorium, repeated examination of sputum but no bacilli were ever demonstrated. X-ray and physical findings justified a diagnosis of pulmonary tuberculosis with abscess in right middle lobe. Laboratory report of direct smears from Trachea and right bronchi.

1. Vincents spirochete and few fusiform bacilli, few pneumococci. No tuberculi bacilli found.

This man has had several doses of Neo-Arephenamin and Sulph Arsphenamin, he gained in weight, works every day, cough has completely disappeared and he says he feels perfectly well.

Lung mapping with diluted lipiodol is very helpful in locating the lesion and revealing its nature. Laboratory study of sputum is suggestive and in cases of profuse expectoration it may be conclusive, but there are cases where expectoration is almost nil and others where bleeding is quite frequent, these cases must not be diagnosed by the presence of an occasional spiro and fusiform bacillus found in an expectorated specimen. Uncontaminated specimens should be procured from the trachea and bronchi.

Lung mapping with recent technique is a very easy and unoffending proceedure. (3) Solutions can be directed into either lung with certainty and by gravity it can be guided to parts of the lung distant from the bases. Pneumography is not yet standardized and while there are mooted points in interpretation it is of great assistance. Rarely will the opaque substance show a cavity because most cavities empty by narrow and devious small channels

which the opaque substance can not enter. The cavity is therefore not invaded and in the plate shows clear, thus a negative finding may lead to a positive diagnosis. In cases of copious excretion this material should be removed from the lungs before using the radio opaque substance. We have found that an eighty per cent dilution of lipiodol gives a perfectly clear shadow. "The term abscess has been rather loosely applied to the condition of drowned lung in which pus has accumulated in the natural passages." This accumulation is due to the more or less complete destruction of bronchial mucosa and a stasis ensues, this static area is emptied only by gravity or when the diseased area over flows and stimulates the normal cillia, thus provoking a cough reflex. With the ease now that we can pour fluids through the larynx and trachea and direct it to either lung I believe that this will establish a method of irrigation which will prove satisfactory and as efficient as placing it through a bronchoscope. With scarcely any discomfort to a patient the affected lung can be filled with bland solutions like normal salt followed by postural drainage until the diseased area had been cleaned, then medicinal solutions may be used and retained for long or shorter periods. If a solution of Novocain 1% be used to lavage with, the medicinal solutions can be retained without coughing for relatively long periods. While we have not had a suitable case we believe that solutions of per borate of soda will prove efficatious in cases of bloody bronchitis.

Conclusions

- 1. Obscure and doubtful cases of pulmonary tuberculosis should be studied with the view of exclusion of fuso spirillary infection.
- 2. Demonstration of great numbers of spirilla and rod shaped bacilli in copious sputum is highly suggestive of pulmonary lesions.
- 3. Positive evidence of lung infection with these organisms should be made from direct smears or aspirations from the trachea and bronchi
- 4. The various arsenic preparations are of great benefit.
- 5. Many of these cases are present in South Carolina.

Bibliography

1—(David T. Smith Reprinted from the American Reviews of Tuberculosis Vol. XVI, No 5, November 1927.)

2—(Chevalier Jackson.)

3—Am. Jr. Med. Sciences. February, 1928—Oschner,

4—Lung mapping illustrated with slides.

DISCUSSION

Dr. George R. Wilkinson, Greenville: I am sorry there are not more people here to hear this paper. This disease is one that has been known for some time, but it is only recently that we have paid much attention to it. I should like to call your attention to one or two things, particularly. We have in this country a young man named David T. Smith, living in New York City, who has written very voluminously on this subject. If you see any of his articles on it you will find them well worth reading. He is now preparing a monograph on this disease, which will be out next year. The subject is almost as broad as tuberculosis.

I should like to mention one thing about the pathology. The organism is present frequently when we have not the disease; that is, we may have the fusiform bacillus in our mouths and not be bothered with it at all. In that particular it is a contrast to tuberculosis, for when we have the tubercle bacillus in the sputum we regard that as a positive diagnosis. Very often we may have the fusiform bacillus and spirillus without any evidence of disease.

The disease is often confused with tuberculosis. There is one rule-of-thumb which I might mention. When a person whom you regard as having tuberculosis has constant or frequent small hemorphages, the chances are that it is not just pulmonary tuberculosis—because this disease frequently complicates pulmonary tuberculosis. In such cases, if you are not able to get a specimen with the bronchoscope, you can give these people some arsenicals; and if they clear up very rapidly from the hemoptysis you have that evidence that the disease is not of tuberculous origin but is of spirochetal origin.

About the pathology, this organism is of a destructible, invading character. All of you have seen Vincent's angina in the mouth. It invades and destroys the tissues. When it invades the bronchi it cuts into them. These _____ show how it cuts into them, leaving punched-out areas, so to speak, somewhat like the punched-out ulcer of syphilis. If you see a punched-out ulcer of the skin you immediately think of syphilis, and this spirillum belongs in the same group to which the Treponema belongs.

As a practical prophylactic for this disease I should like to mention one thing. If you have a patient with tuberculosis or any chronic pulmonary infection, watch how the patient breathes. So many of these patients are thoracic breathers; they try to breathe by expanding the cylinder rather than by moving the piston up and down. They should be taught to breathe with the diaphram, because then they can clear out these secretions much better than if they breathe with the chest.

Dr. Henry F. Hoover, Columbia: I listened to this paper with great interest, and it has brought to my mind many cases that have been very vague up to just a few minutes ago.

With regard to the spreading of this infection from the mouth and throat, where it first takes its seat of origin and by continuity of tissue goes into the lungs, I wish to call the minds of the men here to the fact that the same infection can go into the esophagus and on into the stomach; and then you have very similar symptoms to those of ulcers of the stomach. I have had three cases recently in my practice; one, particularly, had been diagnosed by one of our best diagnosticians as ulcers of the stomach. Upon getting this patient as a throat case I immediately had his bacteriology worked out, found a violent case of Vincent's angina, and immediately put him on treatment with the arsenicals. I gave him seven doses of neo-arsphenamin, ranging from .45 up to .9. At the expiration of this treatment the man, in less than six weeks, put on fifteen pounds in weight. He could not eat anything at all when he came to me; when he was dismissed he could eat anything he chose to eat. The improvement was simply wonderful. I have seen these cases referred to by Dr. Carpenter, with every symptom of laryngitis coming on; and my treatment for those cases was to take my spray machine and, under force, spray their throats with two per cent. nitrate of silver, making them hold their breath. Even then, some of them would strangle until you would think they would lose their breath, but it acted almost as specific for that form of infection in the acute stages. I put them immediately on arsphenamin, and the improvement was wonderful. Of course, when it is complicated, and when it gets into the lungs, with changes in the bronchial tubes, the condition is different. The disease is at a stage where it has gone beyond remedy. Of course this treatment is limited, as outlined, to the infection in the acute stage and when confined to the pharynx, larynx, etc., and has not reached the lungs. After it has reached the lungs the entire picture is changed; it passes into the condition so ably explained in Dr. Carpenter's paper.

Dr. Carpenter, closing the discussion: In the United States there have been only 151 cases of this infection of the lung established and identified. I believe there are many cases in South Carolina.

I thank the gentlemen for the discussion.

*ARSENICALS AND THE OPTIC NERVE

By J. W. Jervey, M. D., Greenville, S. C.

My object in bringing this subject before you is to emphasize the importance of routine care of the function of eyesight during the modern arsenical treatment of syphilis.

It may be safely said that arsenical therapy is today practically universal. Almost every practitioner of experience is using it, due largely to its evident advantages, to the simplification of technique, and to the wide distribution of the required materials in convenient and acceptable form.

In the earlier days of the use of arsenicals for this purpose, say prior to 1920, many results disastrous to vision were reported, attributed to the effects of the drug. About this time H. V. Wurdemann (American Journal of Ophthalmology, January, 1920), one of our ablest ocular pathologists, asserted his conviction that the lesions manifested in the optic nerve were not the direct effect of the drug, but an intensified luetic activity stimulated by the exhibition of arsenic.

A little later, the so-called Herxheimer reaction came to be generally accepted by syphilologists, and this is the phenomenon, not infrequently observed, of the acute activation of the specific infection following arsenical medication, and controlled apparently, and brought into subjection, by even more intensive treatment.

However, there remains the fact, in spite of the lack of positive clinical and experimental evidence, that many competent observers are convinced that the exhibition of arsenic is not without danger to the optic nerve. That some arsenicals are less dangerous than others is also undoubtedly true.

As J. G. Hopkins, of the Department of Dermatology, Columbia University, points out

(Arch Ophth. November, 1927), all of the pentavalent arsenic compounds used in the treatment of syphilis have produced optic neuritis, and all have been discarded except tryparsamide. This form seems useful in neurosyphilis, but is used with the greatest caution regarding its effect on the optic nerve. The trivalent arsenical compounds, to which class the arsphenamins belong, seem less injurious, and positive damage to the healthy optic nerve has not been proved, but Hopkins adds significantly, in eyes with a pre-existing neuritis or primary optic atrophy arsphenamin has not infrequently appeared to cause damage.

That there is some obscure effect of arsenic on the optic nerve is at least strongly suggested by Suker's report (Amer. J. Oph. Vols. 3 and 5, 1920 and 1922) of four cases of methyl alcohol blindness (known to be an optic nerve lesion) treated with arsphenamin with good results. Moulton (Trans. Sec. on Ophth. A. M. A. 1923) reports a similar case treated with small doses (.3 and .6 gram) of neo-arsphenamin with gratifying results; and Stock (Klin. Monatsblatt F. Augenheilkunde, July-Aug., 1923) reports thirteen cases of retrobulbar optic neuritis from various causes, including alcohol intoxication, multiple sclerosis and sinus infection, in which ten of the cases were treated with small doses of salvarsan with good effect.

In the face of these reports, and of course there are many others, must we not believe that there is some definite, or perhaps we might better say indefinite, connection between the use of arsenicals and lesions of the optic nerve?

Unfortunately, we are confronted on the one hand with the undoubted fact that syphilis often involves the optic nerve, and on the other hand with the insistent belief that arsenic may also cause second nerve pathology. In the course, then, of the administration of arsenic in the treatment of syphilis how are we to determine the occurrence of optic nerve involvement as post boc or propter boc in either category? There is the rub.

Let me advert briefly to three cases, each typifying a class in my experience:

FIRST: A distinguished citizen of our state, aged about 60 years, manifested a central nervous disturbance. The trouble was traced to

[&]quot;Read by invitation at the Annual Meeting of the Malboro County Medical Society Bennettsville, S. C., January, 10, 1929.

an old luetic infection forty years previous. Tryparsamide is the therapy of choice apparently in such cases. As a consultant I watched his eyegrounds and visual fields. Suddenly, after the sixth or seventh intravenous injection of the drug, a large segment of the temporal field of vision of the left eye was lost. The arsenical was stopped. The visual field was regained in two or three weeks.

SECOND: A young white man, in his early thirties, under treatment for syphilis in a neighboring city, suddenly developed a serious impairment of vision after his seventh intravenous injection of neoarsphenamin. A bilateral optic neuritis, with retinal hemorrhages, was found. Arsenicals were stopped. Mercury intramuscularly and sodium thiosulphate intravenously were exhibited, and immediate improvement began and has continued for four months, so far.

THIRD: A prominent Floridian sojourner, under the care of one of our most astute urologists, was being treated for a malignancy of the bladder (subsequently operated on and cured). A tentative diagnosis of retrobulbar neuritis was made and a small provocative injection of neoarsphenamin was suggested. Previous negative Wassermanns were promptly turned into a plus. Vigorous arsenical treatment was instituted and normal vision was recovered.

It will be remarked that in the first and second of these types the arsenicals were promptly withdrawn; while in the third case they were pushed, with equally gratifying results; Why?

In the first instance it was assumed that if the luetic infection originating forty years previously had not attacked the optic nerve in all that time, it would be a strange coincidence for it to do so just at this time when another cause, of suspected potency, was being exhibited. So the arsenic was stopped, and the event proved happy.

In the second type of case the systemic condition had greatly improved after seven weekly injections of neoarsphenamin, and it was hard to believe that with the general infection well under control a sudden local flare-up should occur from this source; or that it should take, in other words, as many as seven arsenical in-

jections to produce a Herxheimer reaction. It seemed more rational to hold the arsenic guilty. At any rate the event proved gratifying.

In the third type of case we have an old latent syphilis manifesting itself in an attack on the optic nerves. A provocative dose of neoarsphenamin promptly uncovered a positive Wassermann and as promptly blew up both nerves with an acute neuritis. Obviously the original source of the lesion was syphilitic and not arsenical. The latter medication was pushed vigorously and recovery resulted.

It is interesting to note what Ch. Abadie has to say in this connection (Bull. Soc. Franc. de Dermat. et Syphil. April, 1928): He observes that since arsenicals came into use we now see chorioretinitis, ocular nerve atrophy, and so on, much oftener. These conditions establish themselves gradually, without pain or appreciable reaction. He believes that the arsenicals are not only wholly impotent to prevent their occurrence, but actually precipitate them and hasten the coming of blindness. He thinks the changed form of spirochete has a special affinity for nervous tissue and finds a congenial soil in the optic nerve. He is convinced that tabetic optic atrophy is a manifestation of nutritional deficiency and that the use of arsphenamin in such cases is absolutely contraindicated, whereas the proper administration of mercury either intravenously or subcutaneously will avert the onset of blindness for long periods of time.

E. L. Zimmerman, syphilologist to the Baltimore Eye, Ear and Throat Hospital and the Presbyterian Eye, Ear and Throat Hospital (Arch. Ophth. November, 1925) lends weight of his opinion to this observation, remarking that in tabetic optic atrophy with marked contraction of the visual field arsphenamin therapy had best be abandoned, because, he avers, the chance of improving vision is nil, and the danger of hastening the inevitable amaurosis is considerable. Zimmerman, however, appears to be a firm believer that neurooccurrences and neuro-recurrences are to be ascribed to the infection and not to arsenical medication, and that while mercury is indicated in these cases, it is immaterial whether it is administered together with arsphenamin

11:

or after the arsenical course has been completed.

It seems reasonable to the writer that from the viewpoint of ophthalmology, at least, the therapeutic use of arsenicals should be encompassed with meticulous care and caution. Unfortunately, as has been previously noted, the onset of optic nerve lesions is frequently insidious. Pain or failing vision may not be complained of by the patient. How is so serious a complication to be avoided, and if not avoided how is it to be combatted when once discovered?

Zimmerman (Arch. Ophth. Sept., 1028) aptly says: "The prophylaxis of such disastrous reactions is obvious. In all optic neuritides antisyphilitic treatment should be instituted with caution. Either a preliminary course of mercury or bismuth should be administered, or if arsphenamin is employed from the very outset the initial dose should be small." He truly remarks that optic neuritis may cause no subjective symptoms and only be detected on routine examination of the fundus—and, he might well have added, of the visual fields.

J. A. Fordyce (Amer. J. M. Sc. March, 1021) says that routine spinal fluid examination in the early stages would do much to prevent the occurrence of neurosyphilis. Neglect of systematic eye-ground examination in the active stages of the disease will likewise cause many cases of beginning optic neuritis to be overlooked. It is strongly probable, he thinks, that the treponema invades the nervous system during the period of general dissemina-

tion, or not at all. Along with other well-known observers he feels that where the neuro-manifestations are clearly of syphilitic origin the pushing of arsenical therapy by intraspinal methods offers the best hope of help.

With these thoughts in mind, the writer can only suggest and urge that in the modern treatment of syphilis in every case a careful preliminary and then concurrent examinations of the eyegrounds and visual fields should be insisted on, for only by these means can many of the otherwise inevitably numerous instances of the major disaster of blindness be averted.

Summary

- 1. It is a fact that syphilis often involves the optic nerve, and that in the modern treatment of syphilis the arsenicals are almost always resorted to.
- 2. There is a deep, if at present indeterminate, professional impression that the exhibition of arsenicals at times seriously involves the optic nerve.
- 3. Careful reasoning must be invoked to determine whether optic nerve lesions are to be regarded as of luetic or arsenical origin, and therapeutic procedures must be governed thereby.
- 4. To safeguard the patient, therefore, in the inestimably valuable faculty of vision it is desirable to maintain close and constant observation of the eye-grounds and visual fields during the courses of arsenical treatments, whether for the determination of pushing or interrupting such therapy.

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., CHARLESTON, S. C.

THEORIES OF ACCOMMODATION DR. M. U. TRONCOSE, N. Y. CITY, AMERI-CAN JOURNAL OF OPTHALMOLOGY

In the following article there is something of value to the operative for cataract and glaucoma, besides being also value to the oculist who wants to understand his subject. Many of the cataract operators speak of rocking the lens free during the act of opening the anterior capsule or removing pice of it.

The old controversy is still open between the two principal theories of accommodation namely, that of Holmholtz as to relaxation of the zonule and lens capsule during accommodation and that of Tscherning and others, which considers tightening of the zonular fibers and compression of the lens as the principal factors in accommodation.

To direct and indirect illumination the fibers of the suspensory ligament of the lens appear as straight, brilliant, golden filaments arranged in groups, each of which corresponds to the head of a ciliary process and merges abruptly by a line (not a point) of insertion with the lens capsule at different levels.

In the May issue of the American Journal of Opthalmology, page 383-4, Dr. Albert L. Brown says, "By oblique illumination the anterior surface of the lens could be seen moving steadily forward during accommodation and by more direct examination the outline of the equator of the lens was seen to become more smooth than it was when the eye was fixed for distant vision.

By far the main observations made on this patient were those noted at the insertion of the fibers of the anterior capsule. When the patient was accommodating as fully as possible, the insertion of the fibers merged imperceptibly into the capsule. As there was directed to look into the distance the fibers were seen to shimmer in a half light, and fine crenations appeared at the insertions of the fibers, causing an appearance roughly analogous to formation of

fine crenations on the back of the hand when a bundle of fine hairs are pulled up.

The actions of mydriatics and miotics were of especial interest in this case. The patient was directed to gaze into the distance, and 0.75 per cent eserin was dropped into the left eye. In six minutes the fibers were seen to shimmer and the crenations became smoothed. The anterior surface of the lens moved forward as did the shadows cast by the anterior ciliary processes, and the waves in the edge of the lens became smoother. A two per cent solution of atropin was then instilled.

A view of the zonule fifteen minutes after three drops, each at two minute intervals, showed tiny crenations appearing at the insertion of the fibers. The reaction under eserin and atropin then, were exaggerations of the effects produced by distant and near vision."

The physiological problems to be investigated by means of the biomicroscope are two-fold:

- 1. As to the change in the shape of the lens during accommodation.
- 2. As to the condition of the zonular fibers while this process takes place.

Accommodation causes increase in the curve of the anterior surface of the lens.

Fincham found that the anterior surface assumed a hyperbolic curve in accommodation, the apex rounding into a spherical curve in the pupillary area. In a case of aniridia Story found diminution of the equatorial diameter, especially under eserin.

It seems, therefore, that in the act of accommodation that the lens increases in thickness and decreases in diameter, the anterior surface bulging forward and taking a hyperbolic curvature at the same time that it advances into the anterior chamber, an observation of importance in the causation of glaucoma. The blocking of the angle of Schlemin's canal being heretofore chiefly ascribed to the bunching up of the iris and ciliary body. Dr. Trencosa

believes that there is a shifting of the lens fibers.

In accepting the relaxation theory of accommodation it is not necessary to concede the property of elasticity of the lens. Gullstrant, defining change in shape of the lens in terms of shifting cortex, probably has enunciated the most workable hypherthesis. May not the lens, with the capsules relaxed, increase in its anterioposterior axis, not by springforward, like a coiled spring released from tension, but by a passive shifting of the cortex induced by pressure of the vitreous near the periphery of the posterior aspect of the lens?

Apparently, from the results of Graves' investigation of his case, the capsules are pulled during distant vision and relaxed during accommodation. This fact was confirmed in

1925 by Basil Graves, who presented to the American Opthalmological Society a paper describing a case in which he was able to observe tension upon the lens capsule during distant vision and relaxation of the capsule during accommodation. It was further confirmed by A. L. Brown, whose observations have already been quoted.

It is a proved fact that the lens is plastic enough to change its own shape during contraction of the ciliary body, this is the "physical" accommodation of Fuchs. The hard nucleus, being unyielding, it is the cortex which shifts from the equator to the center and to the anterior surfaces of the lens. The lens fibers are kept compressed by the taut capsule during distant vision.

WOMAN'S AUXILIARY

South Carolina Medical Association

OFFICERS

Mrs.	W H. Nardin, Anderson, S. C.	President
Mrs.	W. A. Able, Columbia, S. C First Vice	President
	D. S. Pope. Columbia, S. C Second Vice	
	I. H. Grimball, Greenville, S. C Recording	
Mrs.	Frank Wrenn, Anderson, S. C Cor.	Secretary
Mrs.	J. R. Miller, Rock Hill, S. C. Publicity	Chairman

COUNCILORS

Mrs. W. G. Gamble, Jr., Charleston, S. C	First	District
Mrs. Ben Wyman, Columbia, S. C.	Second	District
Third District to be Appointed.		
Mrs. J. W. Bell, Walhalla, S. C.	Fourth	District
Mrs. W. J. Dunn, Camden, S. C.	Fifth	District
Mrs. E. M. Hicks, Florence, S. C.	Sixth	District
Mrs. Carl B. Epps, Sumter, S. C.	Seventh	District
Mrs. L. A. Hartzog, Olar, S. C.	Eighth	District

SIMS' MEMORIAL FUND

Previously published	_\$3,150.89
Graduate Nurses, Dis. No. 2	
Mrs. S. E. Booth	1.00
Dr. Jno. W. Corbett	_ 10.00
Dr. and Mrs. H. M. Stuckey	_ 5.00
Interest, August 1st	_ 74.99
Dr. F. M. McLeod	_ 25.00
Dr. Fleming McInnis	_ 5.00
Doctors of Aiken, S. C	_ 59.73
Current Literature Club, Columbia	_ 5.00
Total Collection, Dec. 31, 1928	_\$3 361.61
State of South Carolina	_ 3,361.61
Total January 10th	_\$6,723.22
American Legion Aux. Col. Unit	_ 5.00
Total Collections, February 5, 1929	\$6,728.22

Since my last report in May, collections have been too few to encourage a monthly publication. Having come now to "Grand totals" I have an array of figures sure of a welcome.

In January, having reached our goal, the Com-

mittee decided to consider the campaign closed, and to collect the appropriation from the State. The above statement shows the result. It also shows one contribution received since—which we gladly accepted as we will any additional gifts. For, of course, as is the case in all building, we find our expenses showing a distinct inclination to outdistance our expectations.

We have already made certain payments to Sculptor and Contractor in accordance with signed agreements. When all bills have been paid, an itemized account of the whole will be published for the information of all interested.

Submitted with congratulations to the Woman's Auxiliary.

Treas. Sims' Mem. Fund. Mrs. Wm A. Boyd,

TO THE COUNTY AUXILIARIES

You have all received notices regarding the annual dues together with a request for a list of members and their addresses. The American and Southern Auxiliary have requested the complete list; so far as they are concerned there are no members except paidup members—our list must correspond with the dues we send.

Since the State meeting in Charleston has been put off until May, I think we may allow our selves a month's grace in which to pay up. Please have all dues, with lists, in by March the first, and please give full address with every name to assure the receipt of literature which it is desired to send to each Auxiliary member.

Mary K. Boyd,
Treas. Woman's Aux. to S. C. M. A.
(Mrs. Wm, A.)

......

SOCIETY REPORTS

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SOCIETY, HELD AT THE IMPERIAL HOTEL, JANUARY 7, 1929.

The meeting was called to order at 8:15 P. M., by the president, Dr. J. G. Murray, with about 40 members present. A buffet supper was served by the Hotel Management before the scientific program.

Reports of clinical cases were then called for. Dr. Hugh Smith, reported a case of diaphramatic tic with complete relief of symptoms by phrenocotomy. This parallels a case reported by Dr. Smith, sometime ago with the same results. As there were no further cases Dr. Murray then called upon Dr. E. W. Carpenter who presented a very able paper on Pulmonary Abscess with Especial Reference to Tonsillectomy. Dr. Carpenter stated that this was most commonly met with during the winter. The aetiology of pulmonary abscess consists of thrombi, general *naesthesia, local anaesthesia and insufflation. Dr. Carpenter reported that he had never had a case in his practice as yet. It was also stated that pulmonary abscess can be caused by lung embolism resulting from abdominal operations although this has never been caused experimentally.

Placing patients in the Trendelenburg position causes less cases of this infection.

Diagnosis of pulmonary abscess depends on pain in the side, fever and leukocytosis a few hours later and begins as an obstructed bronchus. Much relief can be had through bronchoscopy.

The pathology was discussed by Dr. Hugh Smith, X-Ray by Dr. Wolfe and the surgery of lung abscess by Dr. C. O. Bates. Taking part in the general discussion were Drs. Mauldin, Kluttz, Pollitzer, C. B. Earle, Wilkinson; closed by Dr. Carpenter.

The President then called upon Dr. J. D. Guess, who dealt with the treatment of chronic infections of the cervix uteri in a very thorough manner.

Dr. Guess stated that this condition has been recognized and treated for a long time. After giving the anatomy of this structure, three types of endocervicities were mentioned (1) the "pseudo-erosion" which occurs in the newborn and very young girls (2) the gonorrhoeal and (3) the non-specific endocervicitides following

normal labor. Of these types, the infantile endocervicitis comes from the vaginal flora. The genorrhoeal type occurs in the form of an acute infection that does not last very long; the microerganisms live on the surface of the columnar epithelium and then invade the cervical glands, which tend to block the glands and bring about cyst formations. Secondary infections are prone to follow the gonococcal infection. Future gonorrhoeal infections are apt to follow if there is other exposure to an infected mate. The symptems of chronic endocervicitis were then mentioned as being (1) Leukorrhoea (2) a yellow mucoid secretion (3) lacerations (4) backache (5) neurological symptoms, such as weakness, etc. (6) increased menstrual flow (7) intermenstrual spotting of the clothing (8) sterility, owing to the fact that there are mechanical and chemical agents which tend to destroy or injure the spermatozoa.

Prophylactic treatment—repair of lacerations early, if the patient can be admitted to a hospital, also proper postpartum care, and treatment after 6-8 weeks following delivery. Gonorrhoeal endocervicitis should be treated at the earliest possible time.

Curative treatment—Dr. Guess stated that there is a multiplicity of methods in the form of douches which are of no value; chemicals are popular but are of little or no avail; the most efficacious treatment is the actual cautery as this destroys the diseased glands and their ducts. Light cautery is more desirable than heavy cautery and an anaesthetic should be used. Stenosis or patency of the cervical canal may result following cautery and should be watched very carefully. Surgery should be no longer employed. Radium therapy has been used but unsuccessfully. Discussed by Drs. Hearin and Grimball; closed by Dr. Guess.

The applications for membership in the Society from Drs. J. E. Brunson and J. D. Parker were read. Dr. Carpenter moved that Dr. Brunson be elected to membership in the Society; seconded and carried. Dr. Hearin moved that Dr. Parker be elected to membership; seconded and carried.

The question of raising the membership dues to \$10.00 a year was then brought up. After some discussion, it was suggested that this matter be laid over until the next meeting as laid down by the constitution.

There being no further business, the meeting adjourned.

I. S. Barksdale, M. D., Secretary

A TRIBUTE TO THE LATE DR. J. F. KINNEY

Dr. John Frank Kinney was born in Brownsville, S. C., on July 31, 1870. He received his preliminary education at a private school at Mc-Coll, South Carolina, Wofford College, and graduated at the Medical College of South Carolina in 1893. He began the practice of medicine in Bennettsville, S. C. and gave thirty-three years of work to his chosen profession. In 1895 he was married to Miss Floy McLeod, a member of one of Marlboro County's most prominent families. He was regarded as an able physician, was county physician for twenty-eight years, was local surgeon for the A. C. L. Railroad, was president of the Pee Dee Medical Society the year before his death. He was also a member of the Marlboro County Medical Society, The South Carolina Medical Association, the Spartan Medical Association, the American Medical Association, and others. He was a member of the Exemption Board during the World War. He was Chairman of the Board of Trustees of the Murchison School for fifteen years. He was a devout church member and active in all church work. He was a high and representative Mason, and was loved and esteemed by all who knew him. He was buried at the McCall Cemetery in Bennettsville, S. C., on April 22, 1928.

WHEREAS: We, the members of the Marlboro County Medical Society desire to place on record our testimony of love and appreciation in which Dr. Kinney was held by us.

WHEREAS: We wish to testify also to his worth and standing in our community, therefore be it resolved:

First: That in his death we have lost one of our most devoted members. Our town and county one of its truest and most loyal citizens.

Second: That Dr. Kinney exemplified in his daily life all those principles that represent the best in our Medical Profession; always looking to the interest and welfare of his patients; never considering himself or his own comfort, when he was active and alert to everything looking to the advancement of the town and community; never shirking nor evading any duty or obligation devolving upon him; never putting off until tomorrow anything that could be done today; always putting forth his best efforts in anything he undertook.

Third: That a page in our minute book be inscribed to his memory; that a copy of these resolutions be sent to his family, the Pee Dee Advocate, and the South Carolina Medical Association.

Committee from Marlboro County Medical Society.

Charles R. May, M. D. Douglas Jennings, M. D.

SPARTANBURG COUNTY MEDICAL SOCIETY MEETING

The regular monthly meeting of the Spartanburg County Medical Society was held Friday, Jan. 25, 1929, at the Spartanburg General Hospital, at 8 P. M. There were 22 members present.

The minutes of the last meeting were read and approved.

Dr. C. W. Bailey read a very instructive paper entitled, "A Pediatric Consideration of Acute Otitis Media In Infants". This paper was discussed by Dr. Cecil Rigby, Dr. R. P. Finney, and Dr. D. L. Smith.

Dr. F. H. Sanders gave a very able discussion of, "Digitalis Therapy". Dr. Sanders stated that digitalis slows and increases the volume of the pulse, that it is best prescribed in the original colored one-ounce bottles. In most chronic cases 22 minims per day is sufficient as it has been shown that this is the average amount excreted per day, but in acute cases of cardiac failure with or without auricular fibrillation, one minim may be given per pound of body weight. Nausea and vomiting indicate that too much has been given. Dr. Sanders stated that the major indications for digitalis administration were auricular fibrillation and cardiac failure from any cause, and the minor indications were toxic and degenerative myocarditis. Dr. Sanders decried the use of digitalis in cases of tachycardia, and in patients with heart murmurs where no symptoms were present. He said that digitalis was contraindicated in heart block and in toxic myocarditis due to diphtheria.

Dr. Sanders paper was discussed by Drs. Busch, Lindsay, and Finney.

Dr. Busch emphasized the folly of using digitalis in patients with heart murmurs without rest in bed, and asked Dr. Sanders what success he had had in using digitalis in pneumonia.

Dr. J. J. Lindsay said that he always used rest in cardiac cases and had found morphine very valuable in acute cases. He stated that he had not obtained good results from the use of digitalis in pneumonia.

Dr. R. F. Finney stated that digitalis acted as a diuretic because it increases the volume of blood flowing through the kidneys, but that the administration of too much digitalis caused a reduction in the urinary output because it produced a contraction of the arterioles. Dr. Finney said that he had used quinine in patients with auricular fibrillation without decompensation and had obtained good results, and that he always used digitalis in pneumonia, prescribing one-half teaspoonful every 4 hours until there was nausea or extrasystole.

In closing Dr. Sanders said that he found digitalis of very little benefit in pneumonia and only used it occasionally. He also stated that he had

found quinidine of much less value in auricular fibrillation without decompensation than digitalis, because of the unpleasant symptoms such as roaring in the ears which are produced when large doses of quinidine are given.

The amendment to the Constitution proposed at the last meeting to combine the offices of Secretary and Treasurer was voted on and passed. Dr. W. M. Sheridan was elected Treasurer as well as Secretary.

Dr. J. J. Lindsay moved that the Society take official notice of the death of Dr. Goldberger and that resolutions be sent to his family, to the S. C. Medical Journal, to the Journal of the American Medical Association, and to the Surgeon General of the Public Health Service. This motion was seconded by Dr. D. L. Smith. The President asked Dr. C. E. Thompson to see that the resolutions were written and sent to the proper parties.

Dr. E. A. Hines, Secretary of the State Medical Society, who was present as a guest of the Society stated that he had enjoyed the meeting, and invited all members of the Society to join the State Pediatric Society of which he was president.

Dr. Hines informed us that the meeting of the State Medical Association would be held May 7. 8, and 9 at Charleston.

Dr. Hines said that in 1926 the Spartanburg County Medical Society had 74 members, in 1927 65 members, and in 1928, 61 members, and that in 1928 there were 13 more doctors in the county than in 1927. He suggested that we have a campaign for members, and that the President of the State Society, the Councilor of the District, and himself would write letters to all non-mem-

Dr. Hines also advised us to be on the look out for cases of undulant fever as there were cases in Columbia, Greenville, Georgetown, Conway, and Spartanburg.

There being no further business the Society adjourned.

S. O. Black, President. W. M. Sheridan, Secretary.

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, JANUARY 22ND, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors B. R. Baker, Ball, Banov, Beach, Bowers, Buist, Burn, Byrnes, Cain, Cannon, Cathcart, Chamberlain, de Saussure, Jackson, F. B. Johnson, W. H. Johnson, Kollock, Lynch, McCrady, Maguire, Mitchell, O'Driscoll, F. L. Parker, Ravenel, R. B. Rhett, W. M. Rhett, W. P. Rhett, Richards, Rutledge, S. Simons, W. A. Smith, Speissegger, Taft, Townsend, Waring, I.R. Wilson, R. Wilson.

Guests: Dr. R. H. Lanning, U. S. N.; Dr. A. P. Morton, U. S. N.; Dr. J. P. Palmer, Dr. Roe E. Remington, and Dr. J. F. McClendon, of the University of Minnesota.

The minutes of the meeting of January 8th were read and confirmed.

Under Reports of Officers and Committees, Dr. R. S. Cathcart reported that the committee consisting of the President, Dr. H. P. Jackson, the Secretary, Dr. W. A. Smith, the Chairman of the Board of Commissioners of Roper Hospital, Dr. G. McF. Mood, and the Chairman of the Board of Finance, Dr. R. S. Cathcart, met a committee of ladies from the Charleston Exchange for Women's Work at the residence of Mrs. George S. Holmes, 16 Legare Street, on the afternoon of January 15th, 1929. According to the instructions of the Society, the President and Secretary executed in the name of the Society an Acceptance of the Deed of Trust and Dr. Jackson, President of the Society, received a check for one thousand, one hundred and twenty-two dollars and sixty-five cents (\$1,122.65). This Deed of Trust was executed in duplicate, one copy being retained by the Charleston Exchange for Women's Work and the other by the Medical Society.

Dr. R. S. Cathcart, Chairman of the Board of Finance, reported as follows:

January 22, 1929.

To the President and Members of the Medical Society of South Carolina.

Gentlemen:

The Board of Finance begs to report that they received from Dr. H. P. Jackson, President of the Society, a duplicate copy of a Deed of Trust and a check for One thousand, one hundred and twenty-two dollars and sixty-five cents (\$1,122.65) from the Charleston Exchange for Women's Work.

The same will be invested and administered according to the terms of the Deed of Trust.

Very truly yours, R. S. Cathcart, M. D., Chairman.

Dr. J. H. Cannon, Treasurer, reported that he had had a conference with Dr. Barnwell, according to instructions of the Society at its last meeting, and stated that Dr. Barnwell had not come to any decision as to what steps he would take in regard to his dues, and asked for more time, stating that he would let Dr. Cannon know soon. It was moved, seconded and carried that this report be received as information, and that Dr. Cannon report the decision of Dr. Barnwell at the next meeting.

Dr. W. C. O'Driscoll, Librarian, reported that the books which had been loaned to the Surgeon General's Library at Washington had been returned and were now in possession of the Library Committee, being carefully stored away. He stated that he had had a meeting of the Library Committee and they were working on plans for the construction of a permanent place to store these books. It was moved, seconded and carried that this report be received as information.

The Secretary read a letter from Mrs. Ashley Halsey, Executive Secretary of the Charleston County Tuberculosis Association, inviting the members of this Society to attend the Annual Meeting of the Tuberculosis Association, which would be held on Monday, February 4th, at 8 P. M. She stated that Dr. P. P. McCain, Superintendent of North Carolina State Sanatorium, would make the annual address on Tuberculosis in Children.

The Secretary read a letter from Dr. William Weston expressing his appreciation of the resolution recently passed by this Society, in which he was praised for the splendid work he is doing as Chairman of the Committee for the Study of the Food Products of South Carolina.

- The Secretary stated that Dr. Dougal Bissell, of New York City, who made the Sims Memorial Address on Gynecology at a meeting of this Society last year, had transmitted to him through Dr. Edward Rutledge additional memoirs on Dr. Sims, which he desired to present to the Society and have attached to the bound copy of his address, which he generously donated.

The Secretary read a letter from Dr. B. Kater McInnes, in which he expressed his gratitude to the members of the profession for the great kindness shown his brother.

The Secretary read a letter from C. S. Barrett, Fiscal Agent of Arts Building, Inc., in which it was proposed to open negotiations for the construction of a professional building.

All these letters were received as information. Under Miscellaneous Business, Dr. Robert Wilson called the attention of the Society to the coming visit of Dr. Wilfred Grenfell to Charleston, stating that he would lecture at the Academy of Music on the evening of January 30th, and inviting the members of this Society to attend this lecture. Dr. Wilson also moved that this Society hold a public reception for Dr. Grenfell in the Society Hall on the afternoon of January 30th, at 5 P. M. This motion was carried.

Dr. F. B. Johnson directed the attention of the Society to the fact that the Tri-State Medical Association of Virginia, North Carolina and South Carolina would meet at Greensboro, N. C., next month. He stated also that this society had not met in Charleston for about ten years, and moved that this Society extend an invitation to the Tri-State Medical Association to meet in Charleston in 1930, and that a committee be appointed to extend this invitation. This was seconded and carried.

The President stated that it was his sad duty

to announce the death of Dr. G. Fleming McInnes on January 12th, 1929. It was moved, seconded and carried that the President appoint a committee to draw up resolutions of respect for Dr. McInnes.

Dr. Wilson moved that a committee be appointed to arrange for the public reception for Dr. Grenfell, the President of the Society to be made Chairman. Seconded and carried.

The Scientific Meeting was called at 9 P. M. Dr. R. B. Taft gave a brief talk on the Grenz

Dr. Wythe M. Rhett exhibited a case of a child of six years who had a loud systolic murmur which could be heard above the cranium. The case was examined and discussed by the following: Drs. R. Wilson, Buist, Chamberlain and Kollock, Dr. Rhett closing.

An obstetrical case report was made by Dr. R. L. McCrady. He discussed a case of toxemial pregnancy which was treated by the conservative method. The patient was recovering from disease when she developed influenza and died of broncho-pneumonia.

The paper of the evening was read by Dr. H. W. de Saussure on "Toxemias of Pregnancy". This paper was discussed by Doctors McCrady, Cannon, and Townsend, Dr. de Saussure closing.

There being no further business, the meeting adjourned.

W. Atmar Smith, M. D., Secretary.

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, JANUARY 8TH, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors; Allen, Beach, Burn, Byrnes, Cain, Cannon, Cathcart, Chamberlain, Deas, de Saussure; Finger; Jackson; F. B. Johnson, Kollock, Lynch, McCrady, Maguire, Mood, O'Driscoll, Phillips, F. R. Price, W. H. Price, Prioleau, W. P. Rhett, Rutledge, W. A. Smith, Taft, Townsend, Waring, I. R. Wilson. (30).

Guests: Dr. R. H. Lanning, U. S. N.; Dr. J. P. Palmer, Roper Hospital internes and medical students.

The minutes of the meeting of December 11th were read and confirmed.

Under Reports of Officers and Committees Dr. K. M. Lynch, Chairman of the Committee on Arrangement for the State Medical Association, made the following report:

Meeting of the Committee on Arrangements for the State Medical Association, with the President, Dr. R. E. Hughes, the Secretary, Dr. E. A. Hines, and Dr. Hugh Smith of the Scientific Committee, December 11th, 1928, 5 P. M.

- 1. It was decided that, on account of the heavy tourist congestion here during April, the meeting should be held May 7, 8, 9.
- 2. That the Francis Marion Hotel should be designated "Headquarters".
- 3. That the Faculty of the Medical College should be requested to schedule a series of clinics, at Roper Hospital, for the afternoon of May 7th.
- 4. That the forenoon session of the 9th should be a clinic session, beginning with a clinical-pathological conference, the schedule of the clinics to be arranged by the local committee.
- 5. That the scientific committee be advised to limit the number of papers on the program, for the remainder of the sessions, to 20.
- 6. That the invited guests of the Association should make their addresses on the evening of the 8th, followed by the reception to the President.
- 7. That there be no scheduled Golf Tournament but that arrangements shall be made for those who wish to play, at the Charleston Country Club.
- 8. That no formal entertainment of the Association other than the reception to the President be scheduled.
- 9. That especial attention be paid to presenting an outstanding scientific exhibit.
- 10. That particular arrangements be made for caring for an unusual commercial exhibit.

This was received as information.

Under Miscellaneous Business, Dr. R. S. Cathcart stated that the officers of the Charleston Exchange for Woman's Work desired to give to the Medical Society of South Carolina certain funds, the interest from which to be used by the Orthopedic Department at the Roper Hospital. Dr. Cathcart then read the following Deed of Trust:

STATE OF SOUTH CAROLINA.

KNOW ALL MEN BY THESE PRESENTS, That Charleston Exchange for Women's Work in the City of Charleston, South Carolina, hereby donates, gives, grants, assigns, sets over, and delivers unto the Medical Society of South Carolina, as Trustee, the sum of One Thousand, One Hundred Twenty-two and 65/100 (\$1,122.65) Dollars, in trust to and for the following uses and purposes, that is to say: In Trust to have, hold, manage and invest the same and to apply the interest and income arising therefrom, to and for the use and benefit of the Orthopedic Department of the Roper Hospital in the City of Charleston, South Carolina, the said funds or trust estate to be known as the Memorial of the Charleston Exchange for Woman's Work, the principal or corpus of said Trust to be kept intact and only the income and interest thereof to be used, as hereinabove set forth.

Dated at Charleston, S. C., in duplicate, this. the _____ day of January, Anno Domini 1929. CHARLESTON EXCHANGE FOR WOMAN'S WORK.

By Nellie H. Holmes, Signed, Sealed and Delivered in the

Presence of:

Mrs. George S. Holmes, President, Mrs. J. H. C. Wulbern (E.H.W.) Secretary,

(Mrs. F. M.) M. R. Robertson, Treasurer,

The Medical Society of South Carolina hereby accepts the foregoing trust and as Trustee thereunder agrees to execute same in accordance with the terms and provisions of the above Deed of Trust.

IN WITNESS WHEREOF the said Medical Society of South Carolina has caused these presents to be signed in duplicate by its proper officers and its Corporate Seal to be hereunto affixed this the _____ day of January, A. D. 1929.

MEDICAL SOCIETY OF SOUTH CAROLINA;

By H. P. Jackson, President, William Atmar Smith, Sec'y.

Signed, Sealed and Delivered in the

Presence of:

F. O. Bates.

Emma B. Rutledge.

Dr. Cathcart then moved as follows: Moved that the Medical Society of South Carolina accept the Trust as deeded by the Charleston Exchange for Woman's Work and hereby instructs the president and secretary to execute this acceptance on the part of the Society. Also, that a committe of four (4) consisting of the president and secretary of this society, the chairman of the Board of Commissioners and the chairman of the Board of Finance, be appointed to meet with the committee of ladies from the Charleston Exchange for Woman's Work to accept the formal delivery of the Deed of Trust and Fund; and that this committee after receiving the Fund, shall turn it over to the Board of Finance, who will invest it in accordance with the terms of the Trust. This motion was seconded and carried.

The regular order of business having been completed, the special order of business, arranged by the Program Committee, consisting of the Annual Report of the Board of Finance, was then taken up. Dr. R. S. Cathcart, Chairman of the Board, reported as follows:

January 8, 1929.

To the President and Members of the

Medical Society of South Carolina. Gentlemen:

The Board of Finance beg leave to submit this, their annual report.

We are charged with the audits of the books of all officers and committees having charge of receipts and expenditures of all monies for the Society.

According to our custom we have had a certified audit of the books of the officers and committees and submit, with this, as our annual report the certified reports of the Auditor, as follows:

An audit of the books of the Board of Finance; An audit of the books of the Committee on Ross Estate;

An audit of the books of the Treasurer of the Medical Society;

A report regarding the Minute Book of the Secretary of the Board of Finance.

Your Board would call attention to the fact that according to the arrangement of the Board of Commissioners of the Roper Hospital returning to us certain funds for the purpose of reimbursing the Keitts Bequest, that the Keitts Bequest has been restored to its original amount of \$32,000.00. We would suggest that this arrangement be continued between the Board of Commissioners and the Board of Finance, beginning January, 1930, or sooner, if possible, until such time as the Kings Daughters donation of \$9,000.00 and the original Roper Bequest are reimbursed. When this is done all Bequests that have been made to the Society will be intact.

We would call your attention to the fact that the Roper Fund is the only Fund in the Society's possession the principal of which may be used in case of any unusual demand, only the interest of the other Funds being available for maintenance. The interest of the Roper Fund, if restored, would be sufficient to pay necessary expenses and the Fund itself would be available for other purposes if the occasion demands.

Respectfully submitted,

Edward F. Parker, Secretary, G. McF. Mood, Treasurer, R. S. Cathcart, M. D., Chairman, H. P. Jackson, President Ex-Officio.

Enclosures.

It was moved that the Report be accepted, and the recommendation be adopted and that the Board be graciously thanked for the excellent services rendered during the past year.

The Chairman of the Board of Finance then brought up the matter of Dr. Barnwell's paying only ten dollars (\$10.00) dues when fifteen dollars (\$15.00) is the established fee for membership in this Society. This matter was discussed by Dr. Cannon, the Treasurer, who stated that he had made every effort to collect the full amount, as instructed by the Society at its last meeting, but had failed. It was moved, seconded and carried that the Treasurer see Dr. Barnwell and discuss the matter with him personally before taking further action.

Dr. R. S. Cathcart, Chairman of the Commit-

tee on the Ross Estate submitted the following report:

January 8, 1929.

To the President and Members of the Medical Society of South Carolina,

Charleston, S. C.

Gentlemen:—

The Committee on Ross Estate beg to report that during the past year through our attorneys, Messrs. Hagood, Rivers and Young, and in conjunction with the Presbyterian Hospital of Philadelphia, Pa., we have been making every effort to close up the Ross Estate and have made a formal request on the trustees of the Mary Jane Ross Estate for a formal distribution of the estate at this time. This has involved several meetings of your committee and several trips on the part of Messrs. Hagood, Rivers and Young to Philadelphia for conferences.

As a result of these conferences we have agreed with the Presbyterian Hospital and the trustees of the estate of Mary Jane Ross to settle the estate at this time, and your committee, on the advice of their attorneys, have adopted the following and similar action has been taken by the trustees of the Presbyterian Hospital in Philadelphia:

WHEREAS Mary Jane Ross, late of the City of Charleston, South Carolina, by her will gave her residuary estate to her trustees therein named In Trust to sell and convert the same into money at such times as the said Trustees might deem proper and to pay over the proceeds of such sales in equal shares to the Presbyterian Hospital in Philadelphia and the Medical Society of South Carolina, Trustee under the Will of Thomas Roper, deceased, and

WHEREAS by codicil to her will she further provided that with the approval of her Trustees and both said beneficiaries, partial distributior of her residuary estate might be made in securities or real estate at a valuation and appraise ment to be jointly approved by her said Trustees and by both said beneficiaries, and,

WHEREAS for the purpose of making sucl distribution in kind, Frank H. Massey, a rea estate broker in the City of Philadelphia, has appraised certain of the real estate comprising sair residuary estate, to wit: premises 427 Market Street and 416 Commerce Street, 1504 Market Street, 33 South 15th Street, 415-17-19-21 Commerce Street, 2011 Arch Street and 620 North Marshall Street, Philadelphia, at a total valuation of \$1,120,000, and,

WHEREAS the Trustees have an interest in the premises, 1617-19 Market Street, Philadelphia, subject to the interest of the Pennsylvania Railroad Company therein, for which interest of the Trustee the Railroad Company has offered to pay fifty thousand dollars (\$50,000.00) but none of the parties hereto are willing to accept same

and have agreed, however, that the commissions payable to the Trustees in relation to said property shall be five per cent (5%) of fifty thousand dollars (\$50,000.00), the amount so offered by the Pennsylvania Railroad Company for the interest of the Trustees in said property and thus making the total agreed valuation, one million, one hundred seventy thousand dollars (\$1,170,000.00) of all the remaining real property of the estate of the late Mary Jane Ross in Philadelphia,

NOW, THEREFORE, be it

RESOLVED: That the Medical Society of South Carolina accepts distribution in kind of the said real estate at said valuation and that the said Trustees under the Will of Mary Jane Ross, deceased, be requested in distribution of said real estate to convey the same to the Plesbyterian Hospital, in Philadelphia, and the Medical Society of South Carolina, or to their respective nominees, as tenants in common;

RESOLVED FURTHER that the said Trustees be requested to convert into cash the personal estate comprising the balance of the residuary estate of the said Mary Jane Ross, and after deducting the Trustees' commissions and other proper charges and expenses, to divide the same equally between the Presbyterian Hospital in Philadelphia, and the Medical Society of South Carolina, and

WHEREAS by the said Will of the said Mary Jane Ross it is further provided that the said Executors and Trustees shall receive a commission for their services at the rate of 5% on principal, including real estate,

THEREFORE, be it

RESOLVED: That the Medical Society of South Carolina consent and agree that the commissions to the said Trustees on the real estate to be distributed in kind shall be at the rate of 5% upon the valuations herein stated, and that if the personal estate in the hands of the Trustees is insufficient to pay such commissions, together with other proper charges, the Medical Society of South Carolina will pay to the said Trustees one-half of any such deficiency.

RESOLVED: That the proper officers of the Medical Society of South Carolina be authorized and directed to execute such agreements or other instruments, and perform such acts as may be necessary or expedient for the purpose of securing the distribution of said estate in accordance with the direction of this resolution."

Your committee (who have full power to act) have taken this action for the Society and we would request that a formal resolution be passed at this meeting confirming this action of your committee.

Very respectfully,

G. McF. Mood,

A. J. Buist,

H. P. Jackson, Pres. Ex-Officio,

R. S. Cathcart, M.D., Chairman.

Dr. K. M. Lynch proposed the following resolution:

BE IT RESOLVED: That the Medical Society of South Carolina do hereby confirm this action regarding the appraisal and settlement of the residuary estate with the Trustees of the Mary Jane Ross Estate and all previous actions on the part of the Committee on Ross Estate in the settlement of the estate of Mary Jane Ross with the Trustees of the said estate. This resolution was seconded and carried.

The Scientific Program was called at 9:45 P.M., after the completion of the special order of business.

Dr. D. L. Maguire read an able paper on Head Injuries. In this paper he analyzed ninety-nine (99) cases of head injuries which had occurred on his service at the Roper Hospital. They were discussed by Dr. Chamberlain, Dr. F. R. Price, Dr. Allen, Dr. Burn, Dr. Townsend, and Dr. Taft, Dr. Maguire closing.

There being no further business, the meeting adjourned.

W. Atmar Smith, M.D., Secretary.

SITUATIONS WANTED

WANTED: Salaried Appointments for Class A Physician in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoc's National Physicians' Exchange, 30 North Michigan. Chicago. Established 1896. Member The Chicago Association of Commerce.



LET US COLLECT YOUR SLOW ACCOUNTS FOR YOU.

COMMISSIONS AS LOW AS 25%.

NO OTHER CHARGES.

Endorsed by American Medical Association and State Societies. References: Bradstreets; Chamber of Commerce; Commerce Trust Co, or publishers of this journal, Satisfied clients everywhere SEND FOR LIST BLANKS

Physicians & Surgeons Adjusting Association

RAILWAY EXCHANGE BUILDING.

KANSAS CITY, MO.

LAURENS COUNTY MEDICAL SOCIETY MEETING

The Laurens County Medical association elected officers to serve during the ensuing year at the regular monthly meeting held in the office of Dr. R. E. Hughes in Laurens on last Monday, February 4, 1929. Dr. Hughes was elected president; Dr. T. L. W. Bailey, first vice-president; Dr. W. T. Pace, second vice-president, and Dr. J. L. Fennel, secretary-treasurer.

Dr. C. N. Wyatt and Dr. R. E. Hughes read interesting papers which were discussed by the assembled doctors.

The next meeting of the association will be held in Laurens on the fourth Monday in February.

J. L. Fennel, Sec'y.

NEWS ITEMS

The Southern Pediatric Seminar has a large number of scholarships at its disposal this summer for the physicians in the smaller communities who are interested in the diseases of children. South Carolina is entitled to several of these free scholarships. They include both board and tuition for a period of two weeks in the summer at Saluda, N. C. Application should be made to Dr. D. L. Smith, Registrar, Spartanburg, S. C., or to the Secretary of the South Carolina.

The Fifth District Medical Association will be called together at Chester about the middle of March for the purpose of reorganization. Dr. J. R. Des Portes, Fort Mill, S. C., the Councilor of that District, is now receiving titles of papers to be read. It is expected that the officers of the State Medical Association and other visitors will be present.

Dr. E. E. Herlong who for some time has been the efficient Secretary of the Florence County Medical Society has moved to Rock Hill.

Dr. W. R. Wallace of Chester was elected Vice President of the Tri State Medical Association at its meeting in Greensboro.

The Pickens Medical Society under the Presidency of Dr. W. B. Furman held its February meeting at Easley. The meeting was well attended. Dr. E. A. Hines, Secretary of the State Medical Association was present and spoke on Undulant Fever.

Dr. Norma P. Dunning, physician at Winthrop College, was recently elected President of the York County Medical Society.



AFTER years of study by the New York Cardiac Clinics, their choice of digitalis products is a tablet made from whole leaf having a potency of one Cat Unit in one and a half (1½) grains of the powdered leaf.

The Lederle tablets were developed as a result of this work. Only digitalis leaf which has been clinically demonstrated to possess uniformity of action is employed in the preparation of the Lederle tablets. To ensure this uniformity, a supply of powdered leaf is standardized sufficiently large to last for several years; and when 5 to 10% of this quantity has been used, a like amount of standardized powdered leaf is added to the remaining stock. By this method, there can at no time be any appreciable variation in the clinical results obtained.

Treatise on Digitalis Therapy and samples to physicians upon request

LEDERLE ANTITOXIN LABORATORIES
NEW YORK



The stlanta Neurological Hospital, Inc. at Brook Haven Manor 4070 Peachtree Road OF ON MEDICAL ATLANTA, GA. DEPARTMENT Child Psychology Neurosurgical Examinations Plagnosis Plagnosis TREATMENT Plete case history of furnished before it is admitted. NEWDIGATE M. OWENSBY, M. D. DIRECTOR 1210 Medical Arts Building, Atlanta Atlanta Neurological

Organic Neurology

DIAGNOSIS

A complete case history must be furnished before a patient is admitted.

The colloidal ability of KNOX SPARKLING GELATINE is valuable in infant feeding

DRS, ALEXANDER, BOGUE, DOWNEY and others have established the colloid-chemical power of gelatine. It has been proved that gelatinated milk is more readily digested and absorbed. Many physicians and institutions have adopted it for certain specialized diets of infants. It increases the available nourishment of the milk mixture. By reducing the formation of large eards, it helps overcome regurgitation and vomiting. It is indicated where infants have colic or excessive gas formation, eardy stools, diarrhea or constipation.

Knox Sparkling Gelatine is an important adjuvant in many special diets. In diabetic cases, it imparts satiety to the patient's appetite, and adds valuable protein content to the menu. In the regimen of invalids and convalescents, Knox Sparkling Gelatine varies the monotony of the diet with dozens of dainty appetizing dishes. Knox Sparkling Gelatine is

QUALITY WITH ECONOMY

Knox Sparkling Gelatine is the highest quality for health. It is a protein in its purest form, particularly suitable where carbohydrates and acids must be avoided. When you purchase Knox Gelatine you not only get quality but connomy, for each package makes four different dessetts or salads of 6 generous servings each.

a pure protein, unbleached, unflavored, unsweetened.

Send for valuable booklets on dietetics

Leading dietitians have prepared the booklets listed below. They contain much additional information on the medical value of Knox Sparkling Gelatine, together with tempting recipes for the various prescribed diets. Surgeons, doctors, dietitians and members of hospital staffs will find them useful for reference. Check those which interest you and mail us the eoupon.

	KNOX GELATINE LABORAT 437 Knox Avenue, Johns Please send me, without for future reports on clinical		
,	() Varying the Monotony of Liquid and Soft Diets.) Recipes for Anemia.) Value of Edible Gelatine in Infant and Child Feeding.	
	Name	Address	
	City	State	_

STALKING THE FOOD FADDIST

It is time for common sense, aided by sane medical and scientific opinion, to put an end to dangerous dieting fads.

Eminent doctors of medicine are making it hard for the food faddist to maintain his hold on the eredulity of the American public. Dr. Morris Fishbein, in "Your Weight and How to Control It," says: "Of all the fads which have afflicted mankind, none seems more difficult to explain than the desire of American women for the barber-pole figure." Other authorities, in the same volume, warn of the permanent injury likely to result from starvation diets.

Dr. Solomon Strouse, Associate Professor of Medicine at Rush Medical College, in his address at the New York

Academy of Medicine, as quoted by the Evening World, said: "I am beginning seriously to wonder whether scientific efforts at diet control based on animal experiment are not overshooting the mark; whether we are not interpreting the life of a caged white rat rather too seriously for the comfort of a free white man." He went on to say that "food and food habits in general play no important role in the attainment of longevity. . . . Despite much that I read of the evils of the modern way of cating and living, I find in actual practice comparatively few examples of excessive food indulgence to the point of harm. . . . It is possible to conceive of undernutrition causing more trouble than overeating."

The trend of modern dieting thought is that



human beings should not only eat a variety of healthful foods, but enjoy them. It is a well-known fact of human psychology that few people will force themselves very long to eat foods that they do not like. As a food scientist says, "It is sugar which

makes it possible for us to eat and enjoy the roughage foods, the vitamine foods, and foods rich in mineral salts." Fruit flavors are developed by sugar. Sugar facilitates the ingestion of fruits, eereals and vegetables.

An eminent biological chemist refers to sugar as "Nature's incomparable flavoring agent." "Sugar," he says, "is the thing which makes the deadly dullness of our overly refined foods palatable. Another thing, it is wholesome."

It is time for common sense, aided by sane medical and scientific opinion, to put an end to dangerous dieting fads. There is no substitute for sugar in the diet. It has its needed place. Appetizing cookery revolves around sugar. The Sugar Institute, 129 Front Street, New York.

Oculists....



ILLYER LENS PRECISION requires prescription shop methods of higher standards than any other ophthalmic lens made and marketed on a commercial basis. This illustration shows the variety of equipment in every Tillyer prescription shop. It makes clear to you why Tillyers are the *most* accurate. Obviously, the more precisely your prescription is filled, the more comfortable the vision. Whenever you prescribe Tillyer Lenses, consider the extreme care with which these lenses are made

AMERICAN OPTICAL COMPANY TILLYER LENSES

Accurate to the very edge



The Iournal

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A. HINES, M. D., F. A. C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston. S. C.

PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. C OBSTETRICS AND GYNECOLOGY R. E. SEIBELS, M. D., Columbia, S. C.

UROLOGY

W. B. LYLES, M. D., Spartanburg, S. C. ROENTGENOLOGY

T. A. PITTS, M. D., Columbia, S. C.

PATHOLOGY AND BACTERIOLOGY

F. M. ROUTH, M. D., Columbia, S. C.

SURGERY

- J. S. RHAME. M. D., F. A. C. S., Charleston, S. C EYE, EAR, NOSE AND THROAT
- J. F. TOWNSENI), M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY
- J. RICHARD ALLISON, M. D., Columbia, S. C.
 GASTRO-ENTEROLOGY AND PROCTOLOGY
- W. T. BROCKMAN, M. D., Greer, S. C. NERVOUS AND MENTAL DISEASES
- E. L. HORGER, M. D., State Hospital, Columbia, S. C.
- MEDICAL RESERVE CORPS
 COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

POST GRADUATE COURSE MEDICAL COLLEGE 1929

The faculty of the Medical College of the State of South Carolina after giving the matter due consideration decided to put on the Post Graduate Course for the physicians for this and nearby States from May 27 to June 8 inclusive. Since these courses were inaugurated in 1927 frequent conferences with individual physicians and officers of the State Medical Association has led to continued improvement in the schedule of clinics and lectures. The first attempt made in 1927 was an unusual success there being enrolled about one hundred and fifty physicians. Last year the enrollment was not so great but there was a satisfactory attendance. Financial reverses in various sections of the State have had some effect perhaps along this line but the fact remains that the instant popularity of the effort portends great success again this year. Full details of the courses to be offered will be published in the April issue of the Journal. Numerous requests have come to the officers of this movement from various parts of the country to learn more about it. The plan has evidently attracted great attention from many other institutions.

PROGRAM FOR CHARLESTON MEETING FILLING UP

Following the notice in the last issue of the Journal requesting titles of papers to be sent in to the Secretary by those who intended to present papers at the meeting of the State Medical Association, May 7, 8 and 9, quite a number of replies were received. Many of these papers indicate an intense interest in providing an attractive program. At this writing there are a few places left on the program for additional papers. These should be sent in at once in order that the Scientific Committee may group them properly.

SOME NEWS ABOUT THE CHARLESTON MEETING

The invited guests of the Association this year are as follows: Dr. Walter E. Dandy, Associate Professor of Surgery in the Johns Hopkins Medical School; Dr. H. P. Wagener, Associate Professor of Ophthalmology Mayo Clinic; Dr. Roe E. Remington, Director of Laboratory South Carolina Food Research Commission in affiliation with the Medical College of the State of South Carolina.

One of the special features of the meeting will be a much more extensive scientific exhibit. It is desired that contributors to this worthy cause notify the officers of the Association at an early date.

The meeting this year should be particularly attractive for the wives and daughters of the members. It is expected that the Woman's Auxiliary will provide an excellent program in addition to the many other inviting features of the city of Charleston.

The following information is available in

regard to hotels: The Francis Marion Hotel, Headquarters and place of meeting, will accommodate as many as 300 at a \$3.00 rate, except for single rooms. Anyone wanting a single room or special accommodations may make reservation at regular rates. The Fort Sumter has a rate of \$3.50 to \$4.00 per day for single rooms and \$5.00 to \$6.00 for rooms occupied by two persons. The St. Johns Hotel, single with bath \$2.50, double with bath \$2.00 per person, single without bath \$1.50, double without bath \$1.25 per person. Charleston Hotel, single without bath \$1.50, double without bath \$3.00, single with bath \$2.50, double with bath \$4.00. Argyle Hotel, \$1.50 per person without bath, \$2.00 to \$2.50 per person with bath. Timrod Inn, one person with bath \$1.75, \$2.00 and \$2.50; one person without bath \$1.25 and \$1.50, two persons with bath \$3.50 to \$4.00, two persons without bath \$2.50. Reservations may be made directly with the hotel desired or through Dr. H. P. Jackson, 100 Broad St., or Dr. Kenneth M. Lynch, Medical College, both of Charleston, S. C.

ORIGINAL ARTICLES

*THE SPECIALITY OF UROLOGY

Milton Weinberg, M. D., Sumter, S. C.

The foundation of urology was started 2500 years ago among the Hindus. Catheters and sounds were then used; perineal lithotomies were performed and widely practiced. Extending through the middle ages, only a little more was done. During the eighteenth and nineteenth centuries, the frame-work of modern urology was constructed. The edifice was completed by the present generation of workers. Between ten and fifteen years ago, the profession, after critical inspection, decided that the structure was substantial.

The development of urology, until recently, and recognition as a specialized entity have been rather slow. Even ten years ago, in very many places, we were snubbed or sneered at as venereologists. Positions of great responsibility in our hospitals were refused. The Johns Hopkins Hospital was probably the first in this country to have a well organized urological department. In 1911, The Massachusetts General Hospital, the first in New England, created a urological department, and put it under the supervision of a urologist. Today, there are comparatively few hospitals which do not have a department of urology with a well trained specialist in charge.

Twenty-five years ago, there were a few well trained urologists scattered throughout the country; now there are about 800 members of the American Urological Association, and this organization does not comprise near all in this country. The large majority now are not only doing the diagnostic work of the urinary tract, but the major surgery as well. The urologist is called upon to contribute the authoritative literature on subjects dealing with the medical and surgical aspects of genito-urinary diseases for systems of medicine and surgery. All of this could only have been accomplished by demonstrated ability and superiority in the

handling of this line of work. In order to do urological surgery most effectively, besides the knowledge of surgical technique, one must have an intimate knowledge of bacteriology, physiology, chemistry, pathology, and all of the established diagnostic and therapeutic procedures pertaining to the genito-urinary tract, there must be introduced into an operation the personal equation of the operator.

There exists today among some of the profession a distinct opposition to the specialist. The fundamental principle of specialism in the practice of medicine, to my way of thinking. is indisputably sound. Centuries before the Christian era, Herodotus writes of Egyptian medicine, "The art of medicine is thus divided among them: Each physician applies himself to one disease only, and not more, all places abound in physicians; some physicians are for the eyes, others for the head, others for the teeth, others for the intestines, and others for internal disorders." The Hippocratic oath requires the general practitioner of medicine to promise never to perform a lithotomy, but to leave that work to those who have made special study of the operation. And we may recall that this operation at that time was performed by the laity. So, then, we see that the old bogy that specialism is a fad, cannot be sustained. Specialism is hoary with age as to the medical profession and permeates other professions and human activities. It is the step toward attaining the ideal. That it has its share of abuses. there can be no doubt. The same thing, however, might as well be said of almost any other worthy institution.

In my opinion, a man who is not well trained in general medicine and surgery should never practice a specialty. No function or disorder of the human body can be intelligently attacked without a consideration of the human organism as a whole. A man does not have to be an expert mechanic to run an automobile or tell when that automobile is not running properly and needs a mechanic. So then a urologist who is well fitted for the work should

^{*}President's address before the Urological Association of South Carolina, Charleston, S. C., October 30, 1928.

have the confidence of the profession in his ability to take full charge of the patient and decide whether or not he needs assistance concerning other conditions outside of the urinary tract. He is fully capable of deciding when to call in an internist, general surgeon, otolaryngologist, or any other specialist.

Let us now briefly mention some of the monumental work that has been achieved almost entirely through the labors of the urologic specialist. Surgery of the prostate gland, within the last twenty-five years, has had its mortality reduced from a very high mortality rate, almost prohibiting this operation, to about 3 to 5%. Many of the men who are responsible for this are still living. They emphasized and established the pre-operative and post-operative principles of treatment, such as preliminary drainage, tests of renal function, survey of the patient as a whole, etc. These now become fundamental principles of all surgery and are now in common use. A few years ago, the only attention that was given to the urinary tract in the field of general surgery was that of making a urinalysis.

In 1885, the mortality for operations on the kidney, according to Gross, was around 20%. In 1912, that splendid surgeon, Gerster, reported a mortality of 12% in a large number of cases operated on by general surgeons. In response to a questionnaire sent out by Caulk last year to about 200 urologists, the information received showed a mortality of 3.8% in 22,148 cases which they had operated on. Caulk states, "This stands out in striking contrast to previous reports of mortality rates of the leading American institutions."

Beer, in 1910, introduced fulguration for the treatment of certain types of bladder tumors, especially the benign papilloma. Up to this time, in this type of tumor, results were very unsatisfactory from surgery. Open operation usually resulted in multiple recurrences on account of implants.

With the discovery of a suitable medium for rendering the upper urinary tract opaque, urology has become more exact from a diagnostic standpoint than any other field of medicine. I think we can safely say that a positive diagnosis in diseases of the genito-urinary tract may be made in 90 to 95% of the cases. This

procedure was suggested about 1901, but perfected in 1915 by the introduction of the use of thorium nitrate solution by Burns. Since then, other opaque media have also been used.

About 1910, Rowntree and Geraghty introduced the phenolsulphonephthalein test for estimation of renal function. Since then blood tests for nitrogen retention have come into common practice as another aid in estimating renal activity. The value of these procedures cannot be over estimated.

Of all the armamentarium of the urologist the cystoscope stands out most conspicuously, both for diagnosis and therapy. Nitze, in 1876, invented a cystoscope. A few years after the invention of the electric bulb by Edison, electrically lighted cystoscopes came into use. In 1886, Brenner succeeded in catheterizing one ureter in a female patient with the cystoscope. Previous ureteral catheterization had only been done by open operation or after the method of Simon in 1871, who placed the finger in the urethra and guided a catheter into the ureter; or in 1886, Pawlick, by placing a speculum in the vagina and guiding a catheter with the finger. Of course, it is readily seen that such methods were impracticable. In 1897, Albarran perfected his catheterizing cystoscope. Various designs of cystoscope instruments have been introduced by Buerger, Lewis, Young, McCarthy and others. In 1893, Brown, of the Johns Hopkins Hospital began ureteral catheterization with the cystoscope, on the male. A little later Howard A Kelley introduced a practical method in the female.

In the field of prevention of useless operations, the urologist has made a wonderful contribution. In order to save the trusting public from unnecessary operations in the right part of the abdomen alone, the existence of the urologist would be justified. I refer especially to the elimination of unnecessary operations on the gall-bladder, appendix, right ovary and tube when ureter or kidney is at fault. The catheterizing cystoscope has saved enormous numbers of kidneys from coming to operation by ureteral dilatation, pelvic lavage, etc., when the pathology was in this portion of the urinary tract. Internal and external urethrotomies were frequently done not many years ago. They are seldom performed now owing to the fact that the large majority of urethral strictures can be successfully treated by gradual dilatation. Urethral manipulation through the catheterizing cystoscope is usually successful in aiding in the expulsion of stones from the ureter. Many of these cases would otherwise have to be operated on. The punch operation for certain types of vesical obstruction has materially simplified the handling of such cases. Strictures and kinks of the ureter which are quite common can be easily dilated through the cystoscope and thereby bring relief to the patient in many cases which otherwise a major operation would become necessary.

In regard to the present status of urologists I will quote from Caulk, "Having demonstrated the ability to execute the highest type of urological surgery, and at the same time reduced the necessity for it, has been a beautiful part of urological progress, and typifies what we may call moral excellence, the bright consummate flower of all progress."

In closing, I wish to say that we would be unworthy, if we do not carry on the bright torch of urological progress that has been handed us. There will ever be work to perform to increase the value of our heritage, and to keep it modern. The goal can never be reached, nor perhaps do we wish it to be, because if it were, we would surely be out of line with all evolutionary processes that go on forever. Let the progress that has already been made be a stimulus to work untiringly for greater achievements.

I feel it my duty to say a word in regard to The Urological Association of South Carolina. There is a definite need for this organization; no other medical society can take its place. It is plainly our duty to always work for the betterment of ourselves and the enlightment of the profession along urological lines.

I again wish to express my gratitude to the members of The Urological Association of South Carolina for the signal honor of electing me its first president. For the perpetuation of its principles and ideals, I shall ever be at its service.

*A PEDIATRIC CONSIDERATION OF ACUTE OTITIS MEDIA IN INFANTS

By C. W. Bailey, M. D., Spartanburg, S. C.

Many of the grandparents of our patients wonder how and why this new fad of ear trouble in babies came into existence. We hear of large families which have had no concern about infected ears and we may well stop to speculate about this. We have a right to believe that much of the so called colic, teething. indigestion, and other acute illnesses in babies some years ago was really acute otitis media. Grandparents often relate how a baby cried for several days with stomachache and finally an car began to run and the baby immediately got relief. The astounding facts brought out about two years ago by the improved hearing tests of school children make us more keenly feel our responsibility in treating all acute illnesses in babies. Of the three million deafened school children in this country reported by Dr. Fowler after his extensive tests with the audiometer, quite a large proportion must be the result of neglected acute otitis media during infancy. This deduction is particularly striking in view of the fact that Otitis media is many times more common during the first two years of life than during all the rest of an individual's existence.

But it is not necessary to summon statistics in order to stress the importance of ear infections in babies. It is only necessary to keep busy with acutely ill infants all of one winter and note the proportion of the work that is done with troublesome ears. In briefly summarizing a few cases some of the more important symptoms can best be stressed.

Just a short time ago I saw a baby 18 months old because the mother wanted him examined. He had had no symptoms of being sick except for a trivial cold three weeks before. The child's ear drums were tensely bulging, white and greatly thickened and both ears drained profusely for two weeks after they were opened. After the ear trouble was located several members of the family said they had noticed the baby being inattentive or partly deaf for some days. There was no history of cry-

^{*}Read before the Second District Medical Assn., Batesburg, S. C., January 16, 1929.

ing, pain, fever, or disinclination to play. This family was of the highest type so that it is fair to assume that no symptoms escaped because of ignorance or lack of attention. Going to the other extreme, I have often seen infants who have been acutely ill for a week or more with high fever, vomiting, cough and profound stupor. In this type of case the chest is full of all types of rales and the respiration very rapid. Even though the ear drums are bulging and after being opened drain much pus these cases appear to be typical broncho-pneumonia. The next day, however, these infants are comparatively free of all symptoms and are often sitting up playing and taking food well. such cases the child has had time to recover from the initial fever caused by the acute infection of the throat and only the ears remain to produce the marked general disturbance noted. This is why drainage of the middle ear sometimes so promptly relieves the toxemia. In these cases we usually find an abnormal pulse-respiration ratio, the respiration frequency being often greater than one to two heart beats.

A case which deserves mention was a baby two years old who had cried for about 24 hours with his left arm hurting. The child was examined all over and nothing found wrong until the ear drums were seen. The right ear was bulging and when this was opened the child got instant relief and never mentioned his arm again. Babies are frequently seen crying with pain which they cannot localize and an ear is found at fault. Often it is the abdomen which the child complains of but probably most often there is crying and fretting and restlessness with no hint as to the location of the discomfort. As a general rule the pain is spasmodic and not continuous and the most severe pain is found when the drums show a diffuse redness and no bulging. After the bulging is marked there seems to be less acute pain and more general or systemic disturbance. lack of pain is observed more in infants than in adults. It is difficult to explain unless we assume that when the pressure reaches a certain point it either produces a pressure anesthesia, or else the tissue of the drum can be stretched more in infants without producing pain.

Vomiting is by far the most constant and characteristic symptom of infected ears in infants. A baby may have very little or no fever and continually regurgitate as a result of bad ears or there may be violent and uncontrollable vomiting during the acute stage of otitis media. If a baby vomits during the winter season and there is no marked dietary error it is a safe guess that the cause is acidosis complicating a throat infection or it is an infected ear, and the ear is the more probable. times parents have phoned that their baby is vomiting or spitting up and they ask how to change the diet to correct this. When the child is seen and a bad ear is found as the cause of the vomiting, the parents are not only surprised but skeptical. However, when the ear and not the stomach receives all the attention they are quickly convinced by the results obtained.

Diarrhoea with or without vomiting is the serious complication of acute suppurative otitis media seen in infants during the spring particularly May. In looking over my cases for the past two years I was struck with this Diarrhoea during the winter is not uncommon but it is much less common and is less severe than during Spring. Most of these ears suppurate quickly and when they are drained the diarrhoea does not subside. The question very naturally arises as to whether the ear infection is primary or secondary to the diarrhoea, which symptomatically is of the infectious type. In most cases the ear infection is present in the very beginning of the illness, but there is a fair proportion of cases in which the ears are normal in the beginning and towards the end of the first week they become reddened and suppurate. There is clinical evidence on both sides.

There is always a fairly large proportion of infants who do not completely recover after an acute attack of sore throat with otitis media. These babies may go for weeks or months with moderately red ears, a little fever most of the time, and very poor appetite. They are difficult feeding problems because of lack of appetite and for this reason they often become pale and undernourished. It is hard to say what place the ear infections play. There is practically always a subacute nasopharyngitis and it is logical to attribute both the symp-

toms of the mild infection and also the persistent redness of the ear drums to this.

So it may be seen that acute otitis media in infants may cause a multitude of symptoms and clinical pictures. There may be vomiting, fever, pain, diarrhoea, extreme nervousness or stupor, loss of appetite and consequent malnutrition. These symptoms may be in many combinations and may vary in degree. The problem is necessarily of most concern to all of us who treat babies, though, most of us must rely on the otologist to touch the right spot and remove the cause of the trouble. Of course these serious disturbances lead to serious general disturbances in infants because of the instability of the infant's chemical and physiologic constitution. Too often we have to deal with extreme dehydration from acute inanition, vomiting, or diarrhoea; extreme acidosis; or sepsis; and death may result from these constitutional disturbances which were initiated by an infection locked up in the middle ear and mastoid antrum.

From the foregoing clinical sketch it is evident that, given only a symptom complex, or history, it would be impossible to diagnose acute otitis media without examining the ears. After having found one or both ears acutely red or bulging one still must consider all other possible causes and finally rule out everything else before the ears can be settled upon as the real cause of the disturbance. The total leucocyte count and the percentage of polymorphonuclears are both usually moderately increased, but there may be little departure from normal. Hence, in my experience, blood counts are of not much diagnostic value. A description of the many and varied appearances of the tympanic membrane would consume much time and will not be attempted here. However, it may be well to mention a few misleading characteristics of acute ear infections in infants. It is not uncommon to see an ear drum greatly evaginated with pus in one portion and appearing normal elsewhere. This is because the redundant mucous membrane lining an infant's middle ear becomes edematous and puckers up in folds thus partitioning off portions of the cavity. An infant's ear often suppurates so quickly that if the patient is seen only after a few days of illness the ear drum

has lost all the initial redness and appears perfectly white. In these cases the loss of normal lustre and particularly the bulging are a definite indication that the middle ear is full of pus. It is well to note the prominence of the short process of the malleus. If the drum appears uniformly flat or rounded and the malleus is lost from view or relatively inconspicuous, it is certain that there is pus. This point is of most value to me in examining the ears of infants only a few weeks old. It is often extremely difficult as well as important to decide whether or nor the ear drum of these very young infants is bulging. Shrapnell's membrane or the superior portion of an infant's drum is often sagging with pus and the rest of the drum practically normal. The main point is that lack of redness does not mean lack of trouble, although redness is the usual evidence of otitis media in the beginning. Another important finding in infant's ears is the sagging or bulging of the posterior superior portion of the external canal. This always means pus confined under pressure in the mastoid antrum.

There is little of definite value to be said as to the etiology of acute otitis media in infants. As stated before it is much more common in babies under three years of age and it is probably most common from the sixth to the 24th month. As children grow older the nasopharynx becomes more spacious and the adenoids comparatively smaller, thus allowing better drainage and ventilation. I have noticed that children with a small nasopharynx or large adenoids are the ones who are having acute ear infections. Negroes have larger nasal cavities and mouths and more space in the nasopharynx and as a consequence one often sees negro babies who have running noses all winter but seldom have ear infections of any consequence. On the other hand mongolian idiots with their small nasopharynx have acute or chronic otitis media with great frequency. Accordingly, there seems to be ample evidence to show that the size of the nasopharynx or the size and condition of the adenoids are the factors which determine the frequency of otitis media in infants. There is no evidence that would lead one to believe that the middle ear ever becomes infected except from an infection of the nasopharynx and thence along the eustachian tube. The eustachian tube in infants is relatively larger and shorter than in adults, thus facilitating the spread of infection from the throat or nasopharynx to the middle ear. On the other hand a large eustachian tube serves as a safety device for the ears by allowing drainage into the nasopharynx, provided that the tube is not closed by an edematous mucosa, inflammatory exudate, or adenoid tissue

Cultures of ear discharges are of little or no value because of the general mixture of organisms found. As a rule the pneumococcus, staphylococcus, and some member of the streptococcus family predominate but there are practically always other contaminating bacteria. I have been told that at Harriet Lane the material gotten from acute otitis media cases for culture is now being obtained by aspirating the ear with a fine hypodermic needle before the drum is incised. This should eliminate most of the contaminating organisms.

It is so evident that it is hardly worth while stating that acute otitis media is always secondary to some other infectious disease which is more or less localized in the upper air passages. Chief among these are the common cold, influenza, scarlet fever, measles, bronchopneumonia, pertussis, and tonsillitis. Somewhat less common primary diseases are diphtheria and lobar pneumonia.

Since all these diseases are more prevalent in the colder months otitis media follows the same rule. Almost invariably young infants have both ears involved. If one ear is abscessed the other is found infected and soon fills with pus.

There is only one noteworthy prophylactic treatment for acute otitis media in infants. This is removal of the adenoids. It is a simple procedure and is usually remarkably effective. The operation can be done under primary chloroform anesthesia and in a few minutes the baby is wide awake. As a rule the throat is not sore and food is readily taken about two hours afterwards. Removal of the tonsils is not only not advisable but is contraindicated because of the age of the patient and because without this more serious surgical procedure the results are usually just as satisfactory. There

are some cases in which the tonsils are enlarged and badly infected and should be removed. But even in these cases it seems more reasonable simply to remove the adenoids first, thereby securing what benefit that is forthcoming, and later when the child's general condition is better, remove the tonsils.

Vaccines are used in both prevention and treatment of these acute infections. Much is claimed by the pharmaceutical houses and some doctors are enthusiastic about vaccines. However, there always seems to be a difference of opinion as to their value. A vaccine probably gives excellent results in some cases but in most instances the results are questionable or indifferent.

Treatment of acute otitis media should be conservative. Early drainage of purulent ears is most conservative and is the safest thing to do. If the drum is diffusely reddened and not bulging one may use drops of 6 to 8 percent phenol in glycerin and watch for more definite indications of an exudate which should drained. Often these ears get well without any treatment. The use of some menthol nose drops or Ephedrine Inhalant to shrink down the adenoids seems to help the ears by allowing better drainage and ventilation through the eustachian tube. Dr. Harold Hays of New York says that it is almost impossible to keep an opening in an ear drum patent when the eustachian tube is exercising its normal function. He thinks that in all cases in children the nasopharynx and upper air passages should receive very careful attention.

Any ear drum which requires opening should be opened wide from top to bottom. The location of the opening usually chosen is posterior to the malleolus. However, some operaators make their incision anterior to the malleolus. After the ear is opened the treatment varies according to the Doctor's own individual ideas. Some insist upon frequent irrigations, others protest against this. As Dr. Morse tersely puts it some are "washers," some "wipers." If the discharge is thick and sticky it seems that irrigation keeps the incision open better. Boric acid solution with one ounce of peroxide to 8 ozs. of the solution has been very satisfactory in my practice. Cotton or gauze drains are sometimes used but these require

more constant expert attention than most of our patients can have. Instillation of the various antiseptic solutions cannot help much because there is always a current of fluid drainage outward through a very small opening and this prevents the antiseptic from penetrating the tympanic cavity to any extent. It is also well to keep in mind that in infants, the mastoid antrum as well as the middle ear is also being drained through the small opening in the drum.

The otologic treatment of these cases is most important if results are to be obtained but the general treatment of the child is of even greater importance. In a word this depends on the treatment of the various conditions as they arise, and on keeping up the food and fluid intake. The family physician or the pediatrist who is attending the case and the otologist should cooperate perfectly.

*NUTRITION OF INFANTS AND PRE-SCHOOL CHILDREN

By William Weston, Jr., M. D., Columbia, S. C.

It is a privilege to be extended the honor to speak before your association and I am glad to have the opportunity to say something on this subject (Nutrition of the Pre-School Child) which is of vital importance to us.

The real significance of this subject is not appreciated by even well informed people despite the great amount of research which is being done in the science of nutrition. Few of us realize that although this science is in its infancy sufficient discoveries have been made and announced to materially influence civilization. This knowledge is so concrete and practical that to master end results is not a difficult task.

The importance to diet in its relationship to health has been appreciated for centuries. We find that it is recorded in history that the alleged founder of Medicine Hippocrates advised patients to be moderate in their diets and even prescribed certain articles of food such as milk, vegetables and fruits. We know that at this time these articles contain the essential elements of a good diet.

If I may wander from my subject a minute I desire to relate a few historical facts that bear indirectly but forcefully upon this subject and well may you congratulate yourselves that you are living in this era rather than the one to which reference is made. In ancient times it was considered a problem of state to adopt whatever method that seemed to them effective in producing a strong and virile population. The Spartans, Romans, Arabians and other ancients (Chinese and Japanese) sought this end by means of infantacide. This was particularly practiced upon the female sex. If they had possessed the known ledge in the science of nutrition which is available at present the results would have been happier and far less repugnant to our sense of ethics.

Dathens of Milan in 787 A. D. founded the first asylum for orphans. They were given the best of foods and care to be had in that period. They were taught a trade and allowed freedom at the age of eight years. Perhaps this is where the idea originated of keeping a child in good physical state the first years of life and he would remain well throughout life. Here is the first idea of prevention through nutrition, which topic is our work in public health. During this pre school span physically they are molded while mentally they are perfect mimics. They are taught to think on entering school so must be good physical specimens if the best results are to be obtained.

Infant morbidity and mortality are highest in the first year of life. Often due to nutritional disturbances. Their digestive apparati are more sensitive and more readily upset than any other period of life. The return to normalcy is apparently rapid but unless the proper food elements are given the time will be all too short before a more serious prolonged illness occurs. Therefore, it must be evident that proper assimilation from the beginning is necessary to give the baby the constitution it deserves. The ability of the child to utilize food Finkelstein calls tolerance. When we speak of a good or poor digestion we mean a high or low tolerance. Nutritional disturbances designate the pathological changes taking place in the body during oxidation and reduction of food, thus the tissues are altered. Readily we understand why infection occurs in a malnour-

^{*}Read before the Second District Medical Association of South Carolina, Batesburg, S. C., January 16, 1929.

ished child. The invasion of the waiting enemy soon happens and the infection is met with little or no resistance.

Errors in diet may be quantitative or qualitative. Quantitative (a) overfeeding, vomiting, regurgitation, diarrhea.

(b) Under feeding is more serious and far more frequent. Mother is too anxious, consequently baby does not nurse sufficiently, else artificially fed the formula is weak. Soon the reserve supply—is exhausted then the tissues themselves are called upon until we have the extreme emaciation of a poor little helpless infant to which term marasmus has been given.

Qualitative disturbances: We will not enter into this subject but suffice it by saying that (a) proteins, (b) fats and (c) carbohydrates cause nutritional disturbances while the carbohydrates are the most frequent at fault. Continued condensed milk feeding is common to each one of us when the baby appears well yet is flabby and anemic while the resistance to disease is almost nil. The tissues are water logged and the host serves an excellent media for any bacterial invasion. The salt and vitamin disorders are qualitative disturbances and are discussed further in more detail. Other disturbances are bacterial and constitutional.

Nutrition or feeding is the basis of pediatrics. Were it not for this branch then there would be no separate field of medicine for children but the research in this line enabling us to feed scientifically has caused the intelligent people to demand the trained service.

The stature or size of a person depends mainly on heredity, diet and climate. The diet is the most important of these as races of people in one place will vary from the same race in another mainly due to superior food. Does this not exist in our own state where men on the coast are small and wiry while in the hill section they are large, active and muscular.

The people of the South always took a leading part in the governmental affairs of the United States until the civil war when the milk and dairy products were almost cut off. Vitamins A B and C were diminished and soon malaria, pellagra and hookworm became very prevalent. These diseases are being gradually wiped out and the science of nutrition is being advantageously applied so that the leaders from the

Southland will soon be heard from again.

Our state of South Carolina should be proud in being the pioneer to have a department of chemistry connected with the Medical College of South Carolina to analyze the mineral elements of the food products. The results of these investigations especially regarding the iodin contents of the foodstuffs of this state as compared with those of other states has been amazing. This should reap untold value to our farmers who are sadly in need of aid. The application of these interesting studies is our duty and we have our hands full in so doing.

The absence of any important food element from the diet causes an altered conduct, disposition and application. The continued lack of some substance like vitamin B has been known to cause nutritional instability characterized by the inability of sustained effort.

The resistance to infection depends largely on the physical stamina which in turn depends on the diet. During an epidemic the person getting a well balanced diet will remain immune longer and even though attacked the disease will usually be much milder. Rarely does tuberculosis develop in properly nourished children. The examination of school children reveals 96% show dental defects and about 50% have marks attributable to early rickets. An infection found travels to other organs and naturally we wish to stop this as soon as possible at its origin, but are we? The Board of Health in this state and in others is spending thousands of dollars for dental and orthopedic correction when the proper nutrition would have prevented this expenditure. Protect our race and save our state by prescribing the proper food. In order to do this thoroughly and correctly we should begin in the prenatal stage to give food to the mother which has a bounteous supply of calcium, phosphorous and fat soluble vitamin. Understand that these elements have a profound influence on the skeletal tissue including the formation of the foetus also the condition of the bones of the mother.

Rickets is a disease with which we are all more or less familiar. A deficiency disease characterized by bony deformity. Should we take Park's (Johns Hopkins) advice regarding the feeding of pregnant women, green vegetables and milk daily, exposing them to fresh air and sun and their infants were placed in the direct rays of the sun receiving cod liver oil every day for the first two or three years, then we would eradicate dental caries and abolish rickets from the earth. What a noble work you would be doing to materially reduce the number of cripples which can be accomplished with your efforts.

Why expose a child to the rays of the sun or the ultra violet? What is its action? The superficial layers of the skin contain cholesterol which is absorbed when acted upon by the proper rays thus causing the combination of calcium and phosphorous in the tissues. It is the same action as giving cod liver oil.

There is another problem which confronts us that applies more to the school than to the pre school child. This is the subject of goitre. It is definitely on the increase and more than 1/2 of the United States lies in the so called goitre belt. We of South Carolina are so fortunate as to escape because our foods have the greatest abundance of that important mineral element iodin. Though it were for this reason alone you should advise the people to eat their own products, for you may well believe that should they be rich in one element they will contain a high percentage of the others.

Children require a greater amount of food per unit of weight than the adult as heat production is proportional to the body surface. Foods have five main functions, namely: "(1) To yield energy. (2) to build tissues. (3) To regulate body processes. (4) To promote growth in the young. (5) To preserve life and well-being."

Fats are the chief source of energy in the body and we derive them from meats, animal products, vegetables and grains.

Carbohydrates are the most economical of the food supplies. Their source is in cereals. vegetables, breads and fruits. A little free sugar should be added occasionally to insure the glycogen store.

Proteins are essential to life and their value depend on the number and variety of amino acids. Their source is found in the meats, eggs, leguminous plants and milk.

The ash exists as separate and distinct elements, chiefly among which are calcium and

phosphorous. The child requires several times as much as does the adult. The action of the mineral elements is usually underestimated for they form a balance which when broken to any marked degree are not compatible with life. They are derived chiefly from plants. lodin is a very small proportion of the body, only one part in three million parts of the body weight but it is an essential element.

The vitamins are not clearly understood as we do not know in chemical terms what they are, yet there is something which exists that has definite effects. There are five actions are specific.

- A. Opthalmia. Source: Egg yolk, butter fat. Results: Eye disturbances.
- B. Beri-beri. Source: Whole grain cereals. Results: Subnormal temperature, intestinal stasis. Nervous manifestations.
- C. Scurvy. Source: Orange juice, tomato juice, fresh greens. Results. Bleeding. Delayed coagulation.
- D. Rickets. Source: Cod liver oil, butter. Results: Bony deformity.
- E. Reproduction. Source: Lettuce, whole wheat.

May this opportunity be taken to explain why the whole grain cereal is prescribed? Wheat does not contain as great a proportion of the essential elements as does rice or oats. Whole corn contains an abundance of vitamin A. If a cereal is stripped of its corticle and germ portions then the grain is markedly deficient in its nutritional value. When 30% of a child's diet consist in cereals then it is important to bear in mind the facts above related.

Your problems exist with the mother more than the child, therefore environmental conditions play a most celebrated role in the nutrition of a child. Orange juice was advised for a baby at a recent child hygiene clinic to which response was, "Do you expect me to give each of my seven children an orange a day? If you do, you are mistaken." No, I am not entering upon birth control but merely pointing out the difficulties under which you are handicapped. The education of the people is a slow process but you are accomplishing this end little by little.

The neuropathic child is often encountered.

The mother speaks little of her offspring but mostly of her own sacrifices and untiring attention holding a most pessimistic outlook for the child. Soon the father's patience is taxed upsetting his equilibrium and his worries center on the baby. Finally the damage is complete when the grandparents, uncles and aunts shower their nervous sympathies on the child. It shows a continual nervous irritability with a definite nutritional disturbance. We must try to bring order out of chaos and for this purpose advise isolation combined with the proper feeding.

Summer heat sickness is not uncommon with us in this climate. Frequently there are too many clothes on baby or several purges are administered in rapid succession. We should diminish the former and eradicate the latter which can be done with the proper feeding. This brings us to the soft drinks and pops, candies, cakes and hot dogs which are devoured in the United States like the proverbial 'hot cakes.' Let's keep working to use the natural beverages, milk and water in their stead.

Milk has no complete substitute. It has the essential elements, fats, carbohydrates, proteins, salts and vitamins. For what more could we ask? Milk is the unit of feeding and regularity is the keyword of its success. Use it and more of it. The fermented milks like buttermilk, acidophulus, lactic acid and Bulgarian all have their benefits in combating intestinal putrefaction and in diseases characterized by diarrhea. Dried milk is of value when fresh milk cannot be obtained, but additional foods like orange juice and cod liver oil should be given.

In conclusion feed the child the necessary articles (1) Milk (2) Green leafy vegetables (3) Whole grain cereals (4) Fruits (5) Meats from muscle alternating with meats of the internal organs. Give sunshine and water to complete the fertilization.

References

Abt's Pediatrics. Vols. I, II, and III.

Weston, William,: Studies in Nutrition.
Archives of Pediatrics Oct., Nov., Dec., 1926.
McCollum and Simmonds: The Newer
Knowledge of Nutrition.

Park, E. A., Guy, R. A., and Powers, G. F.: A proof of the regulatory influence of

cod liver oil on calcium and phosphorus metabolism Amer. Jour. Dis. of Child., 1923, XXVI.

*THE PHYSIOLOGY OF THE LIVER AND SOME CLINICAL APPLICATIONS

By J. Van de Erve, M. D., Medical College, Charleston, S. C.

Dr. Ray Lyman Wilbur, sometime Professor of Medicine in the Leland Stanford Medical School, now Secretary of the Interior in Hoover's Cabinet, writing an appreciation of the late Dr. A. W. Hewlett, keenly observes that "the modern practice of medicine is largely applied physiology. Within two generations physicians have remolded the major concepts upon which the care of the sick is based. For a time the science of medicine pushed the art of medicine into a secondary position. Now a rational method combining the two, is emerging." (1)

Dr. Hewlett, "a trained physiologist, who developed into a skilled practitioner," the author of "Pathological Physiology of Internal Diseases," was the pioneer in this country. Many years ago he gave us a translation of Krehl's volume, and so kept on revising it that presently the whole book was his work, an excellent one indeed.

Dr. J. J. MacLeod, when Professor of Physiology in the University of Toronto, published, less than a decade ago, his monumental work on "Physiology and Biochemistry in Modern Medicine," which by long odds is the most readable, the most scientifically and practically helpful treatise in medicine, worthy of a prominent place on an easily reached shelf in the library of the modern physician.

European physiologists have, years ago, worked towards the ideal of bringing the laboratory and the clinic closely together.

The chasm between physiology and functional pathology is rapidly being bridged, and the amazing development in biochemistry is doing the bridging. The civilization-wide and cumulative interest in periodic health examination, assuming in many states the proportions of a Mississippi flood-relief and preventive

^{*}Read before the South Carolina Medical Association, Columbia, S. C., April 19, 1928.

measures, are no small factor in shifting the physicians' primary aim from getting a man well to keeping a man well, or at least as well as he is at the time he presents himself for an overgoing.

If physiology does not increasingly and ultimately direct the study and define the practice of medicine to this end, it misses the mark and will be "bound in shallows and in miseries."

The fundamental reason physiology has been so long in securing some recognition is its profound ignorance, coupled with its pathetic theorizations. Little practical help ensues to the kidney-specialist so long as the embattled host of opposing physiologic theorists, like Ludwig and Heidenhain, preempt the floor for discursive argumentation concerning the purely physical absorptive power of the glomeruli and the vitalism of the tubule epithelium.

Undeniably the liver is the largest and the most important metabolic gland in the body economy, but our ignorance of its functions is still astounding, largely because the physiologist is so lamentably handicapped in his researches. Even the anatomy of the liver is far from finality. The most recent and most luminous contribution to liver structure is that of McNee. (See chart).

I can do little more in this paper than give an outline of liver functions and make brief comments on some of the newer findings, along with clinical applications.

Liver And Gall Bladder Anatomy

- 1. Gross—lobes; ligaments principally for lateral support, negative peritoneal pressure.
- 2. Microscopic (McNee's diagram much modified, showing relationship of biliary, blood, and lymph capillaires.)
- 3. Circulation—sinusoids, small hepatic artery, large portal vein, which carries 2/3 of liver blood.
- 4. Lymphatics—3 groups, sheaths around blood vessels.
- 5. Innervation—sympathetic for glycogenolysis, inhibits gall bladder; vagus stimulates gall bladder; no secretory fibers, ninth segment.

Physiology

- 1. Liver as a secretory organ
 - 1. Bile

- 1. quantity and flow
- 2. constituents
 - 1. water 97%
 - 2. solids 3%
 - Bilesalts (5 other solids, see below II, 1)
 - 1. origin
 - 2. digestive action on
 - 1. fats-five fold increase
 - 2. proteins due to alkalinity see also 3 and 4 below
 - 3. carbohydrates—see also in 3 and 4 below.
 - 3. intestinal peristalsis stimulated
 - 4. intestinal putrefaction retarded
 - 5. effect on cholesterol and gallstones
 - 6. reabsorbed
 - 1. to carry fatty acid into villi
 - 2. for a powerful cholagogue
 - 3. to carry cholesterol from blood into biliary capillaries.
 - 7. lengthens clotting time
 - 8. parthenogenetic activity
- 2. Fibrinogen for clotting
- 3. Antithrombin for prevention of intravascular clotting.
- 4. Antiprothrombin for prevention of intravascular clotting.
- 11. Liver as an excretory organ
 - 1. Bile (excretion constituents)
 - 1. inorganic salts-mere waste
 - 2. mucin-mere waste
 - pigments—jaundice, reticulo—endothelial system.
 - 4. cholesterol—relation to vitamines, pregnancy, nephritis, gallstones, etc.
 - 5. lecithin.
 - 2. Urea formation.
 - 3. Uric acid formation.

Gall Bladder

- 1. Concentrates bile.
- 2. Stores bile.
- 3. Excretes cholesterol.
- 4. Excretes mucin.
 - Drainage, cholecystography, etc.
- III. Liver as a storage plant.
 - 1. Carbohydrates—as glycogen.
 - 2. Proteins.
 - 3. Fats.
 - 4. Inorganic salts.

5. Blood.

IV. Liver as a chemical laboratory.

- 1. Carbohydrates glycogenetic functions, levulose test, etc.
- 2. Protein metabolism.
- 3. Fat desaturation.
- 4. Detoxications.
- 5. Lymph formation.
- 6. Hemoglobin genesis.
- 7. Iron conservation.
- 8. Thermogenic function.

V. Liver as an *electronegative organ* (Bipolar Theory of Crile.)

Anatomically it is worthwhile noting that the liver's ligaments serve merely to prevent displacements laterally, the heavy organ being held in position by the abdominal organs below, aided materially by positive pressure in the gastro-intestinal tract and negative pressure in the peritoneal sac and thoracic cavity.

According to Stengel (2) "negative pressure in the peritoneal cavity is an important if not the all-important cause of stable position of the liver."

The blood supply to the liver is via the relatively small hepatic artery under high pressure, and by way of the large portal vein at very low pressure. The former, which carries 1/3 of the blood volume, is plentifully invested with vasomotor nerves; the latter has no nerves and depends on variations of capacity bloodflow on changes in the liver itself and in the intestines.

The innervation of the mesohepar is by the phrenic, which accounts for referred pains in liver disturbances to the neck and shoulder regions; by the autonomic via its sympathetic division, T 6-12, stimulating glycogenolysis in the liver, and inhibiting the gall bladder; by the vagus, which stimulates the gall bladder, but, while entering the liver structure, has no known action there.

Enteroceptive fibers from the liver enter the cord at T 10-7. The ninth segment is diagnostically most significant, for it is the segment which transmits referred pain from the liver.

The functions of the liver may be classified under five heads.

1. The liver as a *secretory* organ. Bile is the important and most abundant secretion. It varies in daily quantity from

1/2 to 1 liter. It is secreted at a very low pressure, for which reason its flow is easily obstructed; but if 10-20% of total bile output enters duodenum, intestinal action is practically normal. Entire absence of bile from intestines is incompatible with life after 3-4 months. 97-98.7% of bile is water, the rest solids.

Of the solids only the organic or bile salts, and possibly cholesterol, are true secretions, i. e. are of further use to the body. All the others are purely excretory products.

The liver monopolizes the formation of bile-salts; but only the cholic acid, possibly derived from cholesterol, is characteristic of liver functioning, the taurin and glycine being found in many tissues.

The digestive action of bilesalts is most pronounced on fats, increasing the splitting power of steapsinogen, which the bilesalts activate into steapsin, five fold. It does so by lowering surface tension between the oily fat and the aqueous lipase and by saponification, the soap formed providing a thin coating for the fat globules, preventing these from coalescing, and thus emulsifying the fat to make numerous surfaces for lipolytic attack.

It is highly significant that intestinal bilesalt deficiency will occasion greater fecal elimination of undigested fat than lack of the pancreatic fat enzyme.

The acceleration of carbohydrate and protein digestion is doubtlessly partly due, to the alkalinity of bile, neutralizing the duodenal acid chyme; but the bile salts take a very active part in the process by stimulating absorption and so removing end products, a well known method of speeding up and completing chemical reactions. Couple these last effects with the increased peristalsis, caused by the bilesalts, and it is not dificult to account for the retardation of bacterial action and putrefaction, elimination of intestinal contents being favored in both directions, *out of* the intestines *into* the blood stream and also *into* the colon and *on* and *out* by the feces.

Clinically, of therapeutic significance is the power of bilesalts, specifically its cholic acid radical, to hold cholesterol in solution.

To anticipate the next section, cholesterol is intimately related to the formation of a certain type of gallstones.

Following a high excretion of cholesterol in bile, associated frequently with a lessened secretion of bilesalts, precipitation of cholesterol ensues and stone formation is favored.

Rabbit's bile contains no cholesterol, but Dewey proved that in rabbits, fed on a rich cholesterol diet, multiple intra-hepatic stones are formed, infection results with a calciumladen exudate, the accompanying inflammation interferes with the emptying of the gallbladder, and the stone grows apace, showing the usual stratification of calcium, bacteria, epithelial cells, leucoc tes, around the cholesterol nucleus, and more cholesterol on the outside of these strata.

On this basis administration of bilesalts to prevent gallstones or dissolve them would seem to be a highly rational procedure, especially when it is remembered that the bulk of the bilesalts is reabsorbed for the double role of carrying fatty acids from the Jejunal lumen into the epithelium of the villi, and, in the liver, serving as a powerful cholagogue. Besides they carry cholesterol out of the blood into the bileducts.

A very interesting fact about bilesalts is their parthenogenetic power.

Loeb's work on arbacia is suggestive. Defining fertilization as restoration of lost power of nuclear—and cell-division, Loeb used bilesalts to stimulate an exhausted ovary, and so restored the power to its ova of nuclear division with excellent reproductive results.

The relation of the liver to *clotting* of blood is its production of fibrinogen, antiprothrombin and antithrombin.

11. The liver as an excretory organ. The bulk of bile constituents is eliminated in the feces, viz: inorganic salts, mucin, bile pigments, lecithin, and cholesterol. Only the latter is partly reabsorbed, the extent of absorption depending presumably on the quantity of lipoids ingested with food, and in response to tissue needs.

Though mere waste products the *pigments* deserve further consideration.

The formation of bilirubin, the mother substance of them all, was formerly attributed exclusively to the liver. The newer physiology assigns that function dominantly to other

organs. Its derivation from red cells only is now also questioned.

Macleod, reviewing the work of Whipple, Hoover et al., suggests, on good grounds, that bile pigments may be manufactured de novo out of other materials.

Since it is definitely proved that bilirubin is formed by the reticulo-endotheial system, highly specialized cells, located mostly in the spleen and liver, in smaller measure, in the lungs, bone marrow, lymph glands, and interstitial cells of the testes;—and since the human liver contains relatively few of these cellsthe peculiar stellate cells of Kupffer—it is highly probable that in man the most extensive destruction of red cells occurs in the spleen, and that most of the bilirubin, preformed there, passes through the liver cells into the biliary capillaries. But, it must be emphasized, even the bilirubin, not manufactured directly by the Kupffer cells, is somehow chemically altered while passing through the hepatic cells. On this depends the distinction between the direct and indirect van den Bergh reaction.

Clinically, bile pigments are of grave concern in jaundice and in their excretion in the urine.

Bile pressure is normally less than 15 m. m. Hg., which accounts for obstructive jaundice without finding actual obstruction at autopsy. Increased viscosity may not only dam back the bile in the capillaries, but even in the common duct, inflammatory swelling of mucous membranes of the ducts often aggravating the condition.

Stagnation of bile, or greatly diminished bile formation with thickening of it, due to starvation, fasting, or a very low protein and fat but high carbohydrate diet may cause jaundice because less bile is demanded in intestines.

Granted that histologists have made out fine canaliculi, leading from the sinusoids into the hepatic cells, it is explicable how bile could easily go through these into the lymph spaces about the *blood* capillaries, rather than by the normal route through the caniliculi, leading from the liver cells into the *bile* capillaries.

Impeding of bile flow and consequent pronounced viscidity is occasioned, as in pleurisy e. g., by interfered diaphragmatic movement, no mean factor in pressing bile out of the hepatic vessels.

On physiologico-anatomic grounds a simple classification of jaundice can be made:—

- 1. Obstructive jaundice—obstruction in or beyond the liver, in which bilirubin has gone through the liver cells, and a direct van den Bergh is secured. The obstructive factor may be a stone in duct, plugs of inflammatory mucus, lesions from acute yellow atrophy or necrosis, in which latter cases bile, what of it is still formed, cannot get into the bile capillaries.
- 2. Toxic or infective jaundice—the liver damaged any degree from cloudy swelling up to actual necrosis. The bilirubin, formed in spleen and elsewhere, does not pass through hepatic cells and gives an indirect van den Bergh.
- 3. Hemolytic jaundice—excessive destruction of reds, as in acholuria, therefore much increased formation of bilirubin, especially in the spleen, in which event the hepatic cells are overloaded and bilirubin heaps up in the blood. Indirect van den Bergh results.

It is of interest that in pernicious anemia some infective agent sets free some hemolytic toxin and there ensues a low grade jaundice of this third type.

That combinations of these types, yielding biphasic tests, occur goes without saying.

One of the newer findings concerns the pronounced adsorptive power of plasma for bilirubin, holding it so tenaciously that little or nothing is given up to the tissues and so no staining occurs. The renal threshold for bilirubin is very high, cholemia always preceding choluria, the value of bilirubin in choluria being 150% of that in cholemia.

Meulengracht's test, differentiates, on this basis, early and mild stages of jaundice. Moreover the percentage concentration of biliary pigment in the plasma may be used as a discriminating test between obstructive and hemolytic jaundice. In the former type biliuria follows whenever the concentration of bilirubin equals 0.002% whereas in the hemolytic variety the concentration rises to 0.008%—, over four times as high.

Cholesterol, the metabolism of which is controlled by the adrenal cortex, is both secreted

and excreted by the liver. Some of it is eliminated, but most of it is held in solution by the cholic portion of bilesalts, and is reabsorbed—just why is obscure, the endogenous source (the envelopes of red cells e. g.) and the exogenous (fatty foods) being plentiful. Combining with cholic acid it may prevent the destructive hemolytic and lipolytic effects of that acid in the body, distinctly a defensive mechanism. The cholesterol content of blood is low in infections and rises with recovery.

Ultra violet rays can convert cholesterol into a very efficient antirachitic substance, relating it therefore to vitamin D, and probably A.

Just before menstruation blood cholesterol increases. Bile cholesterol is low during pregnancy, especially in the last four months. In diabetes the rise in blood cholesterol runs parallel to the severity of the case.

Urea, elaborated exclusively by the liver, and uric acid destruction, are well known functions and need no elaboration here, except to observe that, even in extensive kidney damage, urea retention in the blood is not significant, it being a practically harmless substance.

The Gallbladder

The gallbladder's most important function is to concentrate bile to 1/5 or 1/10 of its original volume and store it till recurrent digestive processes reflexly stimulate its contraction for emptying it into the duodenum. The acide chyme initiates the elimination of secretin from duodenal wall into the blood, the secretin then starts pancreatic and bile flow.

Clinically, drainage of gallbladder is of debated, we may say debatable, value. Recently, with the help of Dr. Andrews, who has had a rather extensive experience in his New York practice along this line and who is an ardent desciple of Lyon, I drained a patient for several weeks, reviewed a voluminous literature on the subject and I feel that, in selected cases, drainage by the Lyon method has indisputable value.

3. The liver as a storage plant.

That the liver stores carbohydrates in the form of glycogen has long been known. It is only in the last few years that proteins and fats, also chemically altered, and many inorganic cells are known to be held there as a

reserve for body needs—the fat content being low when glycogen is abundant and obversely.

Being the most active as well as the largest metabolic organ in the body, the amount of blood present in the liver is correspondingly much, and, on occasion, in severe hemorrhage, e. g., the liver can supply temporarily, to tide over such a crisis, a goodly quantity of blood to restore blood volume—for bringing blood pressure towards the normal.

4. The liver as a chemical laboratory.

The variety of functions the liver subserves is little less than amazing. As a metabolic chemist it is without a peer in the body economy.

The foremost is its familiar glycogenic function.

In this connection it is well to emphasize that the liver cannot with equal facility transform every variety of monosaccharide brought to it by the portal vein.

While the muscles seem to enjoy glycogenetic and glycogenolytic power for dextrose and galactose, equal to that of the liver, the liver is far superior to the muscles in converting levulose—hence the introduction of the levulose liver test—really of little diagnostic value.

In addition to the basic metabolism of the liver cells of all foodstuffs for their own use, and storing them for use of all the other organs, chemical action on proteins is exceedingly interesting.

The liver cells are very sensitive to the amino acid content of the blood. Whenever the concentration of circulating amino acids rises above the "dialysis threshold," which is very constantly around 5 mg. per 100 ml. of blood, the hepatic cells promptly seize upon and deaminize them.

At about the same time amino acids begin to be eliminated in the urine. The body is therefore protected twofoldly from amino acid acidosis. Rarely, however, due to the efficient action of the liver, are amino found in the urine, which would be a wholly wasteful process.

Deaminization would likewise be a wasteful activity were it not that the non-nitrogenous residues (after the amino radicles are split off to form ammonia, which in turn goes to form urea or ammonia salts) are chemically trans-

formed into carbohydrates or fats—only 3 of the 18 amino acids being immediately and directly oxidized, valine, lysine and tryptophane.

In diabetics the simple amino acids "follow the line of sugar metabolism" and are found in the urine as dextrose; the aromatic acids "go the way of fat metabolism" and form ketone bodies.

While not directly germane to this paper, it may be of interest to state that in a diabetic diet all the carbohydrates, 60% of the proteins, and 10% of the fat content ingested are equivalent to sugar.

In the diabetic, too, the fact, that 4 of the amino acids—leucine phenyalanine, histidine, and tyrosine—in the deaminizing process yield aceto-acetic acid, is very significant, because coma is to be attributed largely to the accumulation of that poisonous acid in diabetic blood.

That deaminization makes for excessive protein consumption is of economic import.

While amino acids are absorbed from the digestive tract, storage proteins tend to be formed; but the rapid flooding of the portal circulation does not give sufficient time to lay up a reserve of protein in all the cells of the body, and more particularly in the more efficient store houses—the muscles, the liver, and the spleen. Hence this temporary excess together with the surplus from overeating, our common and uneconomic failing, throws an additional load on the liver and overworks its deaminizing and protein-into-sugar-converting functions.

And since protein foodstuff is so expensive it would be economic wisdom to eat five small meals rather than three heavy meals a day to avoid periodic high tide of blood protein, and conversion of it into the cheaper sugars, and, of course, even wiser to bring our total protein consumption considerably down.

The *metabolism of fat* in the liver is a constant function. After chemically changing the portal and depot fats, it stores them for tissue needs. 60-70% of the dried liver is fatty acid. The increase in iodine value in the changes fat undergoes in the liver indicates that the liver desaturates fatty acid by introducing double linkages into the molecule, which serve

in the chain as weak joints, where the fat may be more readily broken down.

The liver also builds fatty acids into *lecithin*, for which desaturation is the initiating stage. The lecithin, thus formed, is widely distributed in the body cells, especially in nervous tissue, adrenal cortex, and ovary. Lecithin may have a significant share in tissue oxidations.

The detoxicating power of the liver is marked. Its extensive enzymic processes easily lead to the warrantable inference that the liver itself is in dire need of—and takes a very prominent part in detoxications.

Hewlett says the liver both sensitizes the body to—and produces anaphylaxis because of its enzymic activity.

Even urea formation—converting a harmful into an innocuous substance—is, at bottom, detoxication, and it is suggested that urea and uric acid may serve as chemical detoxicants.

Alkaloid poisons are rendered harmless by the bilesalts.

By storing certain poisons (such as mercury)—by actively destroying bacteria and chemically changing putrefactive substances (for instance indol, skatol, etc.), absorbed from intestines—by excreting toxic material in the bile—the liver very effectively functions to protect the body against poisoning.

It is well to emphasize here that auto-intoxication from absorption of intestinal putrefaction is much over-drawn, especially in constipation.

Persons of phlegmatic type may go for weeks and months without rectal evacuation and be apparently normal, eat heartily, work and sleep well.

There is an authentic case on record of a man who had no defecation from June 18, 1900 to June 21, 1901, and, all the while, was to all intents and purposes perfectly normal. In the middle of June, 1901, he belched much and complained of some griping, and felt weak. He had lost a little in weight.

When given a colonic enema and cleaned out he was his old, well self again.

The relation of the liver to pernicious anemia is on the public carpet for discussion.

The best and latest findings are to the intent

that the toxin of pernicious anemia affects adversely the formation of red cells in the bone marrow, there producing immature reds-megalo-blasts, which are more vulnerable to disintegrating processes than well developed erythrocytes. The toxin, according to Knud Faber (see annal of Clinical Medicine, April, 1926) is due to intestinal protein intoxication, produced or favored by achylia. He does not say, but I have no doubt, that the liver of the pernicious anemia patient fails to detoxicate this toxin.

Minot noted that, after liver feeding to pernicious anemic patients, there followed a "marked increase in the percent of reticulocytes," and a correspondingly higher red count. He suggests, that the "liver stimulates maturation of the megaloblasts that crowd the bone marrow in pernicious anemia."

Because of the commercialized, highly increased liver consumption today and the unpalatability of a liver diet to the majority of men—it is well to advertise the fact that a non-protein fraction of the liver has been isolated, that is equally if not more effective, and, it is obvious, is given in small quantities.

V. The liver as an electronegative organ. This is referred to in some quarters as one of Crile's "spectatular speculations" and "fool notions."

Read his "Bipolar Theory of Life," or, for lack of time, a readable article in the "Annals of Clinical Medicine," April '26. There is meat in that cocoanut. Already certain effective clinical procedures, in the treatment of liver and gallbladder disturbances, have proven highly efficacious. The nicely articulated activities of brain and liver, in coordinated, purposive effort for the body's well being, are inherent in a delicately poised adjustment of these two electrically charged bipolar organs, the brain being the positive, the liver the negative pole, or, in terms of cell structure and function, the brain, represents the nucleus; the liver the cytoplasm.

Crile discusses pointedly the thermogenic function of the liver, especially the relation of liver temperature to that of the brain, the liver producing 1/3 of the body heat.

In abdominal operations, the anesthetic, hemorrhage (markedly favored by increased

clotting time of blood because of retained bile-salts), mere exposure of viscera to cold, the easy tearing of fibers in the vast and intricate network of sympathetic nerves, etc., led Crile to apply diathermy, which showed a pari passu rise of temperature in liver and brain, and treat the liver, in handling it surgically, with the respect its unipolar importance in bipolar functioning for the body economy deserves.

DISCUSSION

Dr. Paul W. Sanders: The liver was recognized, even by the ancients, as the king of organs, standing as a buffer, on the one hand, between the general circulatory system and the gastro-intestinal tract, and on the other hand between the general circulation and the spleen which filters from the blood micro-organism and toxins that it is unable to destroy, sending them to the liver through the portal circulation for destruction and detoxication.

The hepatic cell has an unrivalled capacity to act on portal blood which has already lost its oxygen. The blood on which the liver acts is venous and leaves the liver as venous blood through the hepatic veins; oxygen plays little if any part in the changes which take place. Physiologists point out that the hepatic artery furnishes oxygen to the liver, and this would appear to be true so far as the liver tissue is concerned, but the supply is not sufficient to lead us to believe that oxygen is necessary for the function.

Perhaps one of the functions of the spleen is the removal of oxygen from the blood which enters the liver by this route. As Dr. van de Erve has mentioned, the main functions of the liver are as follows: (1) The metabolism of carbohydrates; (2) the metabolism of proteins; (3) the metabolism of fat; () the production of bile and (5) the defense against bacteria, protozoa and toxic chemical substances.

Our knowledge of the function of the liver is very imperfect. We have learned a lot from experimentation and one of the most valuable means for attempting to determine the function of an organ is to study the effects of its removal.

Mann and Magath have succeeded in maintaining life in dogs for a period of from thirty-six to forty hours after removal of the liver. In such animals hypo-glycemia develops, associated with convulsions, and death unless the blood

sugar level is maintained by the administration of glucose. This work is significant in relation to hypo-glycemia in general and suggests the use of glucose in forms of toxemia associated with hepatic insufficiency. In a dehepatized animal deamidization is remarkedly disturbed and the nitrogen and urea of the blood deminished simultaneously.

On the other hand, uric acid accumulated in the blood. There is also retention of serum bilirubin with an indirect van den Bergh reaction and the development of jaundice. Although these findings are of great scientific interests, the clinical application of the nitrogen is not clear since the extensive study of disease of the liver in the wards almost invariably fails to reveal significant changes in the nitrogen partition of either the blood or urine.

The liver is the source of a substance which promises to become important in clinical medicine namely, heparin. Heparin was isolated by Howell, and is an anti-prothrombin which renders the blood temporarily incoagulable, and bids fair to replace many other substances now used for its purpose.

The clinical laboratory and laboratory methods are developing in increasing importance as aids in the diagnosis and treatment of diseases. Among the newer acquisitions of the clinical laboratory are the so called functional tests, and their importance has grown so that they occupy no small part of the time of the average clinical laboratory. In a measure this condition is a triumph for physiology, because it implies that the clinician has finally recognized that this least appreciated of the science of medicine represents a standard which he can well afford to use. It also implies that at least in many instances the pathologic condition is but a deviation from normal.

Functional tests are concerned practically with the excretory function of the organ. Owing to various physiological activities a large number of tests have been devised as clinical indices to functional changes in the organs. Many of them have been discarded as of little, if any, value. Based on combined clinical study, the van den Bergh test (direct and indirect reaction); the icterus index and the dye test of Rosenthal have been found of major importance. They have at least served to stimulate a healthy interest in problems concerned with diseases of the liver and have made us realize our shortcomings in this field.

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., CHARLESTON, S. C.

THE LARYNGOSCOPE, JANUARY, 1929
THE ETIOLOGY AND THE ETIOLOGICAL TREATMENT OF "PLAUT VINCENT'S ANGINA."

Dr. P. Mangabeira-Albernaz, Campinas, Brazil

Plaut Vincent's angina is by no means a separate disease as it has heretofore been considered. It is nothing but the pharyngeal localization, usually in the tonsils, of fusospirochetosis, a disease caused by the association of the fusiform bacillus of Le Dantec with a spirochete, generally designated by Vincent's spirocheta.

Although Plaut Vincent's fusopirocheta hypothesis dates back to 1894-96, it is, however, true that up to the present the specifically morbid character of the symbiosis has been called in question, or denied. Since I propose to study the etiological therapeutics of this affection in its pharyngeal localization, I must pass to a sketch of its etiology.

Ever since the beginning of research to determine the casual factor of ulceromembranous angina, disagreement amongst authorities has been evident with regard to which of the two germs is to be considered the primary agent.

Let us admit, for example, that the cause of a given affection lies in the combination of two different germs. Let us grant further that neither of these germs alone is capable of producing any sort of lesion, and that only the two in combination can bring about a morbid condition.

The theory of the spirochete origin of angina, as of the other forms of the disease, was strongly reinforced by the researches upon the pathological anatomy of the lesions.

The authorities cited have verified in all these cases, so far as concerns the microrganic field, that there are two layers in the lesions: one (superficial) a zone of necrosis, the other (deep zone) of inflammatory reaction. The necrosis zone included three layers:

- 1. Superficial, consisting of various microbe forms.
- 2. Median, consisting of true necrosis, preempted exclusively by the germs of the symbiosis.
- 3. Innermost (or deepest zone of the necrotic layer) actively productive of bacilli (Vincent's layer of active bacterial production) characterized by the presence of fusiform bacilli in considerable numbers, and of occasional spirochetes. The deeper zone of inflammatory reaction has no fusiform, and no pus-producing germs, but, as Veszpremi had already discovered, it bears great quantities of sprichetes. The spirochetes are found throughout almost the whole thickness of this zone or layer. They abound around the vessels and the small centres of interstitial hemorrhage, where they constitute a veritable tangle and, as it were, open the way for the latter.

From what has been said we conclude:

- 1. That the fusospirochete combination is the cause of ulceromembranous angina.
- 2. That the morbid character of the affection is not due to the spirochete alone, although the study of the pathological anatomy and of the therapeutics of the disease would lead one so to suppose.
- 3. That the disease is produced by the two germs, neither alone being pathogenic. The fusiform bacillus of Le Dantec, Seitz' bacillus hastilis, is a well defined germ bacteriologically.

From the morphological point of view, it seems that the type of spirochete found in symbiosis with the fusiform bacillus is always the same, wherever that type may be. Since we cannot classify the nonsanguinary spirochetes, we may call it the Vincent's spirocheta.

Proper therapeutical procedure in Plaut Vincent's angina has not usually been observed. If, as we have seen the fusospirochetosis is due to the joint action of the fusiform bacillus and

Vincent's spirocheta; if, as the studies in pathological anatomy demonstrate, the spirochete penetrate deeply into the tissues; if, in order to reach it, it becomes necessary to dissolve the magma underlying the lesions, the pathognomonic symptoms of the disease, then it is clear that the remedy to be used should fulfill very special conditions.

These conditions may be summarized in the following five requisites:

- 1. The remedy employed should be absorbed to a greater or lesser extent by the tissue; that is, it should penetrate in order that its action be felt upon the deeper tissues and on the surface.
- 2. It should be antiseptically active for an appreciable time. This means that the remedy should not be immediately resolved by contact with the tissues, as happens, for example, with hydrogen peroxide, perborate of sodium, etc.
- 3. It should be neither caustic nor destructive. These qualities unfortunately are often and unwisely made use of in the treatment of disease. If, however, we destroy the tissue, we increase and enrich the field for the multiplication of germs; for unless the cuterization be very extensive, the germs present, not only on the surface, but in the deep tissues, will not be reached. Such thorough caustic action is not always practical.
- 4. It should have a dissolvent action upon the necrotic tissue characteristic of the lesion.
- 5. Its antiseptic action should be specific upon one or other component of the symbiosis, for if one of these is eliminated the symbiosis is destroyed. The antiseptics directly acting upon anerobic bacilli (of which the fusiform bacillus is a variety) are the oxidizing agents, and their value has not been thoroughly proven on the living subject; for it is rare to find an anerobic germ which cannot live as erobic. The same is not the case with regard to the spirocheticidal agents, the antiseptic action of which is more specific than any other known in therapeutics.

If we study the therapeutics in vogue in the so-called ulceromembranous angina, we shall see how far specialists have come from satisfying the above-mentioned conditions. This perhaps is the reason why Plaut Vincent's angina has called forth by itself a greater diversity in treatment than all other infections of the pharynx, put together. It is evident that in mild cases "any antiseptic will do," as Escat says; but, unfortunately, the specialist does not always meet simple cases. Hence arose the practice of violent therapeutics with the salvarsan administered intravenously, a treatment which at the present, should only be resorted to in the most exceptional cases.

Returning to the critical examination of the different methods of treatment in vogue to cure Plut Vincent's angina, let us see which meet the above specified conditions. The following substances meet the first condition, that is, they penetrate more or less deeply!

Slight penetrating power; 1. tincture of iodin in paints (Vincent); menthylene blue, strong solutions (Lermoyez); 3. trypafalvine (Erick Mayer, Mann, Kall, Markus Mayer); 4. silver nitrate of methylene blue, or angrochrome (R. Fischer, Kronenberg); 5. pyoctanine, or methyl-violet (Kronenberg, Wichels); 6. mixture of trypaflavine with the gentian violet, or acriviolet (Herzig).

Still weaker penetrating power. 1. chromic acid (Dubreuilh); 2. picric acid (Prill).

Strong penetrating power: 1. salvarsan and neosalvarsan, employed generally or locally; 2. the salts of bismuth locally applied. Its penetrating power is not equalled by any of the other substances used in the treatment of Plaut Vincent's angina.

Brief antiseptic action;—a long list but of little value.

More prolonged action; 1. the coloring substances: methylene blue, fucosine, gentian violet methyl violet, trypaflavine, rivanol, gentian violet being the most active of these.

More powerful action: 1. the arsenobenzols, particularly neosalvarsan and silversalvarsan; 2. salts of bismuth, of still greater power. Its action, as I was able to verify by its analgesic properties, which it also possesses, lasts from two to four hours after application.

The third condition—no caustic or destructive action—is met by all the substances previously studied, except acids and astringents. Neosalvarsan is very painful when applied, but does not destroy tissue. Bismuth salts also bring about some burning, which is much more tolerable than that produced by neosalvarsan,

neither are they destructive.

The fourth condition—a dissolving action on the necrotic layer—is met, I believe, only by Bismuth.

The fifth requisite—the substance should have a relatively specific antiseptic action upon one of the compounds of the symbiosis—is not met except by few of the therapeutical agents. The following may be considered more or less specific for a fusiform bacillus, as also for the anerobic bacilli in general. (The remedies mentioned have not proved effective) 1. hydrogen peroxid, 3 per cent, and perhydrol; 2. powdered sodium perborate; 3. potassium permanganate; 4. chromic acid; 5. chlorate of calcium.

The ones that are effective on the spirochetes are the arsenobenzols and the bismuth substances. The majority of the authorities consider the best treatment of Plaut Vincent's angina to be the use of neosalvarsan. The only difference of opinion is with the method of use; some regard the effect of the local application superior to the intravenous, others consider the intravenous as the more efficacious. In this particular I am of the opinion of Beck and Kerl: "that the intravenous application should be resorted to only in very severe cases, or in those which are frequently recurrent."

The arsenobenzols entered into the therapeutics of ulceromembranous angina in 1907. Arsenobenzol was then employed intravenously and this method soon became general. It was not till 1911 that Achard and Flandrin, and 1912 that Caesar Hirsch thought of calling into play the aquous and glycerinated solutions, the pure substances powdered, applied upon the lesions, which naturally displaced the dominant intravenous method.

The employment of bismuth in local applications in ulceromembranous angina, and in all spirochete affections, pure or compound, was justified, from the results of experiments by various doctors. This is the reason why I began my experiments on Plaut Vincent's angina making careful paints with potassium and sodium bismuth tartrate, at 10 per cent.

Few of the bismuth salts have been employed in this treatment. The first used was acid potassium bismuth tartrate in oil emulsions at 10 per cent (the bismulol of trade) After-

wards I used the potassium and sodium bismuth tartrate (trepol) in emulsions at 30 per cent. Le Goff tried the oxid of bismuth (neotrepol) at 3 per cent. The iodin bismuthate of quinin (quinby and bismugalol) has been tried, and recently Laurens employes with relatively poor results the subnitrate of bismuth. It seems that the effect of the salt is in direct ration with the percentage of metallic bismuth. It is my opinion, however, that if the bismuth tartrate at 30 per cent causes overwhelming therapeutical results, it is not necessary to use larger doses of bismuth. The absorption of the metal by the ulcer is a recognized fact and the poisoning of the organism—though so far unobserved—is quite possible.

The treatment I employ consists in a daily paint of the ulcer with a salve emulsion of bismuth tartrate at 30 per cent—trepol; gargling with any mild antiseptic every two or every three hours. The severe cases call for three treatments at most Le Goff carried on the treatment as long as eight days, but without continuous attendance on the patients. One should remember, as Beck and Kerl say, "that the affection lasts, when treated with the usual antiseptics, 14 to 21 days."

Bismuth should substitute neosalvarsan in the treatment of Plaut Vincent's angina. This seems a rather bold assertion, but the study of innumerable other localizations of spirochetosis upholds me in it. I employed bismuth with the best results in three cases of fusospirochete otitis; in 64 cases of phagedenic ulcer (ulcus tropicum); in three phagedenic genital cases accompanied with widespread destruction of the foreskin and gland, and in two cases of erosive balanitis of Berdal and Bataille. One may say that this simply proves the positive effects of bismuth; but in some of the above cases (phagedenic ulcer), neosalvarsan applied locally and generally proved itself in several trials inferior to the bismuth. In one case the intravenous use of neosalvarsan had no effect on the lesion. In another case, two identical lesions treated locally, the one with this drug, the other with bismuth, healed at different times, bismuth proving to be unquestionably superior.

The economic factor is also worthy of attention. The local neosalvarsan application is usually in solution of 3 per cent. Since this

deteriorates on prolonged exposure to the air, it becomes necessary to use fresh solutions. On an average of three applications, the treatment costs about \$3.50 while the same results are obtained with 2. gm. of bismuth, or about 25 cents, at present exchange.

The local application of neosalvarsan is very painful; that of bismuth, as spoken of by some hypersensitive patients, is simply stinging, while for the majority it is painless.

The principal advantage which bismuth presents over neosalvarsan is, notwithstanding, its effect against pain. As is known, the principal characteristics of fusospirochetosis are: pain, false membranous ulcer and bad ordor.

This sedative property of bismuth deserves to be more widely employed in our special department. I was able by the use of 20 per cent bismuth paints to allay for periods of four hours the most violent pains of a patient suffering from endothermic coagulation of the tonsils.

Summing up, we may say:

- 1. Plaut Vincent's angina is a pharyngeal localization of fusospirochetosis.
- 2. This disease is produced by the association of the fusiform bacillus of Le Dantec with a spirocheta which may be called Vincent's, in default of an exact microbiological classification.
- 3. The etilogical treatment of the disease calls for five conditions to be met by the remedy, which are strictly present in high degree in only two series of substances: the bismuth substances and the arsenobenzols.
- 4. Bismuth has many advantages over the latter; it is less toxic ,more powerful, and economical, and is immediately and certainly sedative, allaying the characteristic pain.
- 5. The bismuthic substances locally employed are, therefore, the best treatment of Plaut Vincent's angina.

WOMAN'S AUXILIARY

South Carolina Medical Association

OFFICERS

Mrs.	W. H. Nardin, Anderson, S. C.	President
Mrs.	W. A. Able, Columbia, S. C. First Vice	President
Mrs.	D. S. Pope Columbia, S. C Second Vice	President
	I. H. Grimball, Greenville, S. C Recording	Secretary
Mrs.	Frank Wrenn, Anderson, S. C Cor.	Secretary
Mrs.	J. R. Miller, Rock Hill, S. C. Publicity	Chairman

COUNCILORS

Mrs. W. G. Gamble, Jr., Charleston, S. C.	. First	District
Mrs. Ben Wyman, Columbia, S. C.	Second	District
Third District to be Appointed.		
Mrs. J. W. Bell, Walhalla, S. C.	Fourth	District
Mrs W. J. Dunn, Camden, S. C.	Fifth	District
Mrs. E. M. Hicks, Florence, S. C.	Sixth	District
Mrs. Carl B. Epps, Sumter, S. C.	Seventh	District
Mrs. L. A. Hartzog, Olar, S. C.	Eighth	District
Mrs. E. M. Hicks, Florence, S. C. Mrs. Carl B. Epps, Sumter, S. C.	Sixth Seventh	District District

The local Auxiliaries are anticipating the annual meeting of the State Auxiliary with genuine pleasure.

Charleston is an ideal place for the gathering and it is hoped a large delegation of doctors wives from all over the state will be present to make this the very best meeting in the history of the organization.

Our state President, Mrs. W. H. Nardin, who is visiting in Charleston just now, will confer with the Charleston ladies as to plants, etc., and will be able to give definite information about the program in the April Journal.

BULLETIN OF WOMAN'S AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION. HISTORICAL COLLECTIONS

The collection of historical facts concerning the medical profession is one real service we may give to our county and state medical associations. The medical associations in several of the northern state have already complied, published histories of their pioneers in medicine. It is the desire of each state association to have the record of its progress in medical practice in permanent form. Since the physicians, themselves,

are in most instances too busy to collect this data, what a splendid opportunity is here afforded the members of the Auxiliary!

The types of material advisable to collect are numerous and varied; old books, papers, magazines, and pictures of every description—woodcuts, daguerreotypes, tin-types, oil paintings, sketches, water colors, prints, and photographs, instruments, instrument cases, etc.

Methods of securing this material will largely depend upon its location. Some will be found in old libraries, in the garrets of some old Southern homes, deep in the recesses of some dusty bookcase in some aged doctor's office; in the county court records, old city directories, church or parish records, ancient tombstones in the forgotten cemeteries. Also, many stories of praiseworthy acts of the old family physician as yet unwritten may be secured from the oldest inhabitants, if the seeker of medical facts will take the time to secure the stories.

Through organization we will perhaps be better able to gather more complete data.

May I suggest that the State and County President appoint a chairman of historical collections, with each member of the auxiliary considering herself a member of this historical committee for her county? All of the historical data secured should be placed in the hands of the county chairman. The county chairman would send this material, accompanied by a list giving the names of the articles secured, together with the donor's name, to the state chairman, who would forward this to the secretary of the state medical association, where all of this precious material could be kept in a safety vault. Then, at its pleasure, the state medical association can have this data compiled by an historian of its own selection, and published as it pleases.

Mrs. J. W. Sams.

SOCIETY REPORTS

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SO-CIETY, HELD AT THE IMPERIAL HOTEL, MONDAY, FEBRUARY 4, 1929.

The meeting was called to order by the President, Dr. Murray at 8:10 P. M., with about 50 members present.

The guests of honor present were Drs. R. E. Hughes, President of State Medical Association; L. G. Beall, and C. Fred Williams.

Dr. Hugh Smith suggested that reports of clinical cases be dispensed with that our out of town speakers might have more time for the presentation of their papers. This suggestion met with the approval of the Society.

The President then introduced Dr. L. G. Beall, of Black Mountain, N. C., who read an excellent paper on "Some Considerations of Mental Diseases in Middle and Old Age". Dr. Beall first stated that much attention had been paid to communicable and other diseases but little or no attention had been given mental diseases. Our aim should be to foster good physical health with the mental and to change bad habits and bad environments. In an analysis of 500 cases of mental disease Dr. Beall stated, there were 189 of these patients below 40 years of age and 311 of 40 years. He mentioned that manic depressive psychosis, dementia praecox, and thyroid disease were the principal types occurring in those patients below middle age. Dr. Beall stressed the importance of studying the individual rather than the population, and that early cases of mental disease should be sought out for it is then that patients are most amenable to treatment.

The numbers of cases of mental disease are steadily increasing. There are seventy-five thousand new cases of mental disease admitted to American hospitals each year. The overcrowding of these hospitals is most distressing; from 1-8 to 1-6 of each state's appropriations goes for the maintenance of these institutions.

Dr. Beall then summarized his paper by stating that organic mental diseases are those that are caused from infections; that heredity as well as environment are important factors; and, that efforts are being made to salvage through the juvenile courts of the country.

Dr. Murray then called upon Dr. C. Fred Williams, Superintendent of the South Carolina State Hospital, who gave a most informing paper on "Criminology from the Standpoint of Psychiatry". He stated that the physician of today makes an effort to elevate the criminal, and that

mental disease often creates a tendency to crime, which, if taken in hand early enough may be corrected through proper therapy. Dr. Williams stated that a hasty examination of a prisoner by court order is most unsatisfactory because the human organism is a most complex one requiring a good deal of time and effort for proper study.

harman and the second and the second

Heredity as a cause of crime alone is a great fallacy as there is apparently no proof that it is. According to Healey and Spalding, alcoholism affects the environment but is not in any sense of the word hereditary. A disturbed mental condition in a child is very often corrected by the death of one or both parents, depending, of course upon the responsible parent; even the change of environment is sufficient to correct a serious mental defect. Dr. Williams then added that there is nothing at all to the heredity of a patient-it is all environment provided that children are normal mentally and physically. Jealousy, of itself very often leads to crime. One thousand cases of wrong-doers were then mentioned and of this number 72 per cent were normal mentally.

The environment factor is the all-important one. Dark, dingy living quarters and wretched homes are predisposing factors to melancholia, and the setting of bad examples leads to disaster in later life. The proper social adjustment requires a lot of patience and sympathy. Young life needs an outlet and not repression. Energetic young life should be corrected and led into good channels rather than subjected to punishment. Many base criminals could have been helped if early tendencies had been corrected properly.

The scientific program was here completed. The question of raising the dues of the Society was then brought up. Dr. W. T. Brockman moved that the dues be raised to \$10.00 a year; seconded and lost.

Dr. Anderson discussed increased license fees in the City of Greenville and moved that the chair appoint a committee to go before the Finance Committee of City Coancil; seconded and carried.

The name of Dr. Gerald E McDaniel was then submitted for election to membership in the County Society. It was noved, seconded and unanimously carried that Dr. McDaniel be elected to membership.

Dr. Murray appointed Drs. Bruce, Houston and Anderson as the Committee to consult with the Finance Committee of City Council in regards to license fees. Dr. Wolfe moved that the Tri-State Medical Association be invited to hold its 1930 meeting in Greenville; seconded and carried.

There being no further business the meeting adjourned.

I. S. Barksdale, M. D., Secretary.

LAURENS COUNTY MEDICAL SOCIETY MEETS

The Laurens County Medical Society held its February meeting in Laurens on February 25.

Dr. R. E. Hughes, the new President presided. The attendance was good and this meeting proved to be the best held by the Society in a long time.

Dr. W. T. Pace, of Gray Court, read a most interesting paper, together with case reports on "Amebic Dysentery".

Dr. J. Y. O. Daniel read a very excellent paper on "Syphilis of the Liver". He reported a case having occurred in his practice.

Dr. F. K. Shealy read a paper on "Broncho Pneumonia". This was discussed by all members present.

Drs. J. W. Davis and Chas. N. Wyatt were elected delegates to the State meeting in Charleston, with Drs. W. D. Ferguson and J. M. Bearden as alternates.

J. L. Fennel, M. D., Secretary.

ANDERSON COUNTY MEDICAL SOCIETY

The Anderson County Medical Society held its regular February meeting at the John C. Calhoun Hotel, Anderson, S. C., February 14, 1929, at 12 noon. The meeting was presided over by the President, Dr. J. N. Land.

We had as our guests, Dr. E. A. Hines, from Seneca, S. C., Secretary of the South Carolina Medical Association; Drs. R. M. Pollitzer and L. O. Mauldin, of Greenville, S. C.

Dr. Hines ga'e a discourse on "Undulant Fever" and gave a report of the cases that have so far appeared n South Carolina. He is making a detailed study of the prevalence of this disease in the state.

Dr. R. M. Pollitzer gave a very interesting talk on "Serum sickness," clearly differentiating serum sickness from serum accidents (anaphylaxis).

Dr. L. O. Mauldin entered into the discussion of the subjects presented. Much interest was shown in both the subjects which were freely discussed by all the members present.

The secretary was instructed to thank the Anderson County Delegation for increasing the appropriation to the Anderson County Hospital for the care of charity cases.

At the conclusion of the scientific program the regular monthly luncheon was served.

Members present, 31.

Visitors, 3.

E. E. Epting, M. D., Secretary.

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, FEBRUARY 12, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors: Allen, A. E. Baker, B. R. Baker, Ball, Banov, Beach, Bowers, Buist, Burn, Cain, Cannon, Cathcart, Chamberlain, Finger, Heidt, Jackson, F. B. Johnson, Kollock, McCrady, McInnes, Maguire, Martin, Mitchell, Mood, Moore, Pearlstine, Phillips, F. R. Price, Prioleau; Ravenel, Rhame, R. B. Rhett, W. M. Rhett, Richards, Rutledge, Scharlock, Scott, S. Simons, W. A. Smith, Taft, Townsend, Van de Erve, Wild, I. R. Wilson, R. Wilson, Miles. (46).

Guests: Dr. R. S. Dinsmore, of Cleveland; Drs. A. R. and J. B. Johnston, of St. George; Dr. Roe E. Remington, of the Medical College, and Dr. J. P. Palmer, of Charleston.

The minutes of the meeting of January 22nd were read and confirmed.

The Secretary read a letter from Dr. J. N. Walsh requesting transfer of his membership to the Berkeley County Medical Society, effective January 1, 1929. Dr. Walsh enclosed a check to cover his unpaid dues. It was moved, seconded and carried that Dr. J. N. Walsh be granted a transfer to the Berkeley County Medical Society as of January 1, 1929.

The President reported that a reception was held in the Society Hall on the afternoon of January 30, 1929, in honor of Sir Wilfred and Lady Grenfell. He stated that he had appointed a committee composed of the officers of the Society and Dr. Robert Wilson for this occasion. The reception was well attended by a large number of lay people in addition to the members of the medical profession.

Under Miscellaneous Business Dr. R. S. Cathcart, as member of the Library Committee, reported, in the absence of the Chairman, that the Committee desired to recommend that the books recently received from the Surgeon General's office be placed under the care of the Dean of the Medical College of the State of South Carolina for preservation in the college library, until such time as the Society was able to take proper care of them. On motion, duly seconded, this recommendation of the Library Committee was carried.

The President announced that he had appointed the following committee to draw up resolutions of respect on the death of Dr. G. F. McInnes: Dr. J. F. Townsend, Dr. J. H. Cannon, and Dr. H. W. de Saussure.

The President also announced that Dr. I. R. Wilson had presented to the Society a framed card showing the schedule of fees. He stated that Dr. Wilson had also had enough of these made for distribution to the members of the Society.

At 9.00 P. M. the Scientific Meeting was called. Under Special Case Reports, Pr. William H. Prioleau presented three cases of hyper thyroidism, which had been successfully operated upon and were improving.

Dr. Robert S. Dinsmore, of Cleveland, was then introduced by Dr. Prioleau, at the request of the President. Dr. Dinsmore gave an able address on Diseases of the Thyroid Gland, and showed lantern slides to illustrate the various types of the disease and the results of treatment. The paper was open to discussion, at the request of Dr. Dinsmore, and the following took part: Drs. Prioleau, Burn, Maguire, and F. R. Price, Dr. Dinsmore closing.

There being no further business, the meeting adjourned.

W. Atmar Smith, M. D., Secretary.

CLARENDON COUNTY MEDICAL SOCIETY MEETS

The regular meeting of the Clarendon County Medical Society met at the Offices of Dr. Scott Harvin on March 8th, all the members were very much impressed by these well equipped and commodius offices, at this meeting, the following officers were elected for the insuing year: Dr. Thos. Gunter, President, Dr. C. B. Geiger, Vice President, and delegate to the house of Delegates, meeting at the time of the State Medical Association, in Charleston, Dr. Stukes Secy. & Treas., after this a paper was read by Dr. Carrigan on Acute Lymphatic Leukemia, appearing in a child of only eleven months, the paper being discussed by Dr. T. J. Davis and Dr. W. S. Harvin.

L. C. Stukes, Secy.

RIDGE MEDICAL SOCIETY MEETS

The Ridge Medical Society met the eighteenth of February at seven o'clock in the evening in the Leesville Infirmary.

After the usual opening ceremonies, Dr. William Weston, Jr., read an interesting and instructive paper on nutrition, which the Ladies Auxiliary attended and seemingly enjoyed. In addition to many good things Dr. Weston stres-

sed the importance of milk in the diet of so many who fail to get it.

Drs. Crosson, Wise and Timmerman discussed various features of Dr. Weston's paper.

Dr. W. P. Timmerman exhibited an unusual case of skin grafting and narrated some amusing incidents which elicited not only comment but merriment.

Dr. C. A. Mobley of Orangeburg gave an interesting address on hernia and herniotomy with illustrations, which elicited inquiries and favorable comment.

Drs. D. B. Frontis, Ridge Spring, A. R. Nicholson, Edgefield, and R. H. Timmerman of Batesburg were elected delegates to the State Medical Association.

Dr. A. R. Nicholson was elected president to fill out the unexpired term of Dr. W. T. Gibson who has moved to Bailey, N. C.

An elegant supper was served in the Infirmary dining room by Miss Eulah Hyatt and her assistant nurses.

The Ladies Auxiliary was the guest of the Ridge Medical Society.

Short after dinner speeches were made by Drs. Thackston, Nicholson, Weston, Beeler, Mobley and Crosson also Mrs. W. P. Timmerman and Mrs. E. C. Ridgell.

Dr. W. P. Timmerman read short sketches of Drs. Lewis M. Asbill, J. B. Dubose and St. P. Dubose, and S. Goods Mobley and commented upon some of their outstanding characteristics.

Dr. F. G. Asbill spoke very feeling and laudatorily of the late Dr. W. H. Timmerman as a physician, statesman, business man and citizen. It is the purpose of our Society to have sketches of some of the deceased doctors of our section at various meetings. May we suggest that some other small Societies try it.

Many of our local nurses also met with us. The next meeting is to be in Batesburg at Dr. W. P. Timmerman's.

Drs. D. B. Frontis and W. P. Timmerman attended the meeting of the Tri State Medical Association in Greensboro, N. C.

OCONEE COUNTY MEDICAL SOCIETY MEETS

The Oconee County Medical Society met at Seneca, Friday, January, 18,1929 with Dr. J. W. Bell, President, in the chair. The minutes of the last meeting were read and approved. The following members answered the roll call: Drs. J. W. Bell, B. F. Sloan, T. G. Hall, W. C. Mays, J. S. Stribling, E. C. Doyle, E. A. Hines, W. C. Marett.

Under head of clinical cases Dr. E. A. Hines presented a patient recently recovered from Undulant Fever. The case was discussed freely by several members of the Society. This was the

first case probably ever presented before a South Carolina Medical Society.

Under the head of new business Dr. Hines reported on the County Hospital proposition to the effect that no active work had been done in recent weeks about it.

Election of officers resulted as follows:

Dr. T. G. Hall, President, Westminster, S. C. Dr. W. C. Marett, Vice President, Seneca, S.

Dr. E. A. Hines, Secretary-Treasurer, Seneca, S. C.

Dr. J. S. Stribling, Delegate to State Medical Association meeting, Seneca, S. C., with power to appoint alternate.

Dr. W. C. Mays was elected to Board of Censors for three years to 1932, the term of Dr. J. D. Verner having expired.

The Society then adjourned and met with the Woman's Auxiliary at the home of Dr. and Mrs. J. S. Stribling where delightful refreshments were served and an interesting joint program was carried out.

E. A. Hines, M. D., Secretary.

PITHY SUGGESTIONS

When jealous General X, of the Union Army, told Abraham Lincoln that U. S. Grant, though getting victories, was drinking a great deal of whiskey—you remember Lincoln's laconic reply "General X, find out the brand and get some yourself."

Let us learn something of our Colleagues in the State. Their victories and successes. Maybe we can use some of their brand of action.

"Competition is the life of trade"—and old dictum—possibly conceived in the jungles but Co-operation is the life of professional success.

If we cannot get anything in the line of Technique or Diagnostic acumen from our Colleagues—Maybe we can in diplomacy, culture, and gentility—Few of us are Perfect—from the layman's view point anyway.

Every State meeting is important, but to keep abreast of the times (now a necessity) the meeting in Charleston May 7 will be the most important ever held. Questions and issues are coming up materially affecting every medical man in the State, professionally and pecunarily. If you are a member come, if you are not and Can—JOIN NOW!

If you are so satisfied outside the State Society with your standing what does the layman think of you. Even the cheapest lawyer has learned to use it against you, when you are called to court. "Pride comes before a fall." May we never "all, a word to the non-member is a real duty devolving upon us.



SITUATIONS WANTED

WANTED: Salaried Appointments for Class A Physician in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan. Chicago. Established 1896. Member The Chicago Association of Commerce.

......



SLOW ACCOUNTS FOR YOU.

COMMISSIONS AS LOW AS 25%. NO C

NO OTHER CHARGES.

Endorsed by American Medical Association and State Societies. References: Bradstreets; Chamber of Commerce; Commerce Trust Co, or publishers of this journal, Satisfied clients everywhere. SEND FOR LIST BLANKS

Physicians & Surgeons Adjusting Association RAILWAY EXCHANGE BUILDING, KANSAS CITY, MO.

NEWS ITEMS

Published at Request of Dr. F. B. Johnson, Director Clinical Laboratories Medieal College State of S. C.

In accordance with the trend of the times, the practice of medicine is utilizing more and more the services of trained lay help. The advent of the laboratory as an indispensible aid to the diagnosis of disease has created a new specialty in medicine; that of clinical pathology. In order to carry on the numerous technical tests required in scientific diagnostic procedures, the laboratory director has found it necessary to train the technical personnel. With the standardization of hospitals and the urgent call for qualified laboratory assistants there has arisen a demand for proper standardization of the preliminary education and technical training of those enrolled in this new profession.

There has also been a desire on the part of those engaged in this useful calling to raise their status, similar to the evolution of the trained nurse of a generation ago. This want is now being taken care of by a national organization consisting of a body of men who are most vitally interested in elevating the intellectual and technical status of laboratory workers. The American Society of Clinical Pathologists has taken upon itself the task of organizing a Registry of Technicians with rules under which those qualified by education, technical instruction, and moral character will receive a certificate.

The subject is of interest to physicians in every field of endeavor as many of them are desirous of securing the services of technicians to carry on the routine laboratory procedures.

There is no doubt that the elevation of the laboratory technician to the status of a respected and useful calling will be a great help to the medical profession, to the patient, and to the scientific practice of medicine.

The headquarters of the Registry of Technicians of the American Society of Clinical Pathologists are located in the Metropolitan Building of Denver, Colorado.

Another very desirable feature of the Registry is the facilities it offers in finding suitable placement for registrants and in aiding physicians to find desirable applicants.

The American College of Physicians will hold its Thirteenth Annual Clinical Session in Boston, April 8-12. Dr. Charles F. Martin, Dean of the Faculty of Medicine, McGill University, is President of the College this year, and Dr. John H. Musser, Professor of Medicine at Tulane University Medical School is President-Elect and will be inducted to the Presidency toward the end of the Boston meeting. Dr. James H. Means, Jackson Professor of Clinical Medicine at Har-

vard Medical School and Chief of the Medical Service at the Massachusetts General Hospital is General Chairman of all Boston Committees having charge of arrangements for the Clinical Session of the College in April.

The Program provides hospital visits, clinics, demonstrations and ward-walks during the fore-noon at fifteen different Boston hospitals, and for general scientific sessions each afternoon and evening in the Assembly Room of the Hotel Statler, which will be headquarters. Eminent authorities in their special lines will present the results of their work before an audience competent to appreciate the value of the contributions.

A Symposium on Deficiencies will take place the first evening of the Session, and will be of particular interest because of the fact that deficiencies are nowadays assuming a far more wide-spread and important role than had heretofore been anticipated. They have come into their own as factors producing acute and chronic disease on a par perhaps with infections. The Committee has secured for the Program men who can speak with authority on a variety of aspects of this important subject.

Another special feature is a review of the Present Status of Vaccine and Serum Prophylaxis and Therapy, designed to give the Internist a rapid survey of the field. The speaker, Dr. Benjamin White, of Boston, is an authority on these subjects and can give the high spots in rapid and yet forceful fashion.

The annual Banquet of the College will be held Thursday evening, April 11, when Dr. George E. Vincent, President of the Rockefeller Foundation, will deliver the chief address. The Convocation, for the conferring of Fellowships, will take place Friday evening, April 12. Dr. Charles F. Martin, of Montreal, will deliver the Presidential Address.

Programs and details concerning reduced fares, admission, etc., may be secured from the Executive Secretary, E. R. Loveland, 133-135 S. 36th Street, Philadelphia, Pa.

communication of the communica

WANTED position as laboratory technician by young woman. Three years' experience: One year's training in Clinical pathology at S. C. Medical College, one year in physician's laboratory, and one year in S. C. State Board of Health Laboratory. Equipped to make usual examinations of clinical laboratory, including serological tests and blood chemistry. Best of references.

"W", care State Hygienic Laboratory Columbia, S. C. Correcting dangerous food fads

SUGAR &

COMMON

needed in the diet

Evidences that medical and scientific men are leading a swing toward sanity in diet.

DIETARY opinion in the United States in recent years has been swept by numerous nation-wide food fads, most of them ludicrous, many of them harmful. The craze for slimness, exposed as dangerous by many physicians, is an example. The fad for eliminating sugar from the diet is another.

Diet misinformation cannot be wholly blamed on the public. A swarm of "food extremists," laymen and laywomen, with a smattering of terms gleaned from medical and scientific publications, have furnished an endless supply of articles and features to the newspapers and popular magazines and radio. These "authorities" have been read and heard by millions. Their utterances have had the attention factor of sensational interest.

It is a dangerous policy to entrust health education to lay writers. It is time for medical and scientific authorities to eliminate the dangers of faddism with precepts of intelligence and common sense.

There are evidences that medical and scientific men are leading a swing toward sanity in diet. Twelve medical specialists and dieticians recently prepared a symposium exposing the dangers to men, women and girls of starvation diets and "reduction treatments," so called, for slimness.

"The most delicate parts of the body are always the ones to suffer first," says one of the medical specialists. "Keep children and young people well nourished and up to weight," says another.

Medical directors before an eastern tuberculosis conference recently warned of the dangers of under-dieting of young girls. "The most difficult SENSE

problem," said one of the directors, "facing us in combating tuberculosis among high-school girls, and particularly among the young flappers of today, is the serious habits they practice to retain or acquire a slim and graceful figure. . . . The problem of nutrition is the one we have to face in our treatment of girls of this age. It is at this age that girls are most susceptible to tuberculosis and other diseases."

A research food biologist, at one of the great universities, recently said: "Sugar is a carrier for roughage in the diet — mineral salts, mineral ash, and fruit vitamins. Sugar modifies the harsh fruit acids and makes the fruits palatable. It

does not injure or change in any way the delicate compounds. At least 90% of constipation is due to a lack of roughage. Eat bran, fruits and vegetables sweetened to taste."

The ranking biological chemist at another great university recently said: "Sugar is nature's incomparable flavoring agent. Sugar is one thing that relieves the deadly dullness of our overly refined foods. Also, sugar is wholesome and the most inexpensive condimental food in the world."

Sanity in diet calls for varied roughage foods. In addition to milk and milk products, young people and adults should eat a varied diet of cereals, fresh or canned vegetables and fruits. Sugar makes these healthful foods enjoyable. The Sugar Institute, 129 Front Street, New York, N. Y.

The Iournal

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A. HINES, M. D., F. A. C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston. S. C. PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. C.

OBSTETRICS AND GYNECOLOGY R. E. SEIBELS, M. D., Columbia, S. C.

UROLOGY
W. B. LYLES, M. D., Spartanburg, S. C.
ROENTGENOLOGY

T. A. PITTS, M. D., Columbia, S. C.

PATHOLOGY AND BACTERIOLOGY

F. M. ROUTH, M. D., Columbia, S. C.

SURGERY

- J. S. RHAME. M. D., F. A. C. S., Charleston, S. UEYE, EAR, NOSE AND THROAT
- J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY
- J. RICHARD ALLISON, M. D., Columbia, S. C.
 GASTRO-ENTEROLOGY AND PROCTOLOGY
- W. T. BROCKMAN, M. D., Greer, S. C.
 NERVOUS AND MENTAL DISEASES
- E. L. HORGER, M. D., State Hospital, Columbia, S. C.

MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

PRESIDENT'S CALL TO UNVEILING OF SIMS MEMORIAL

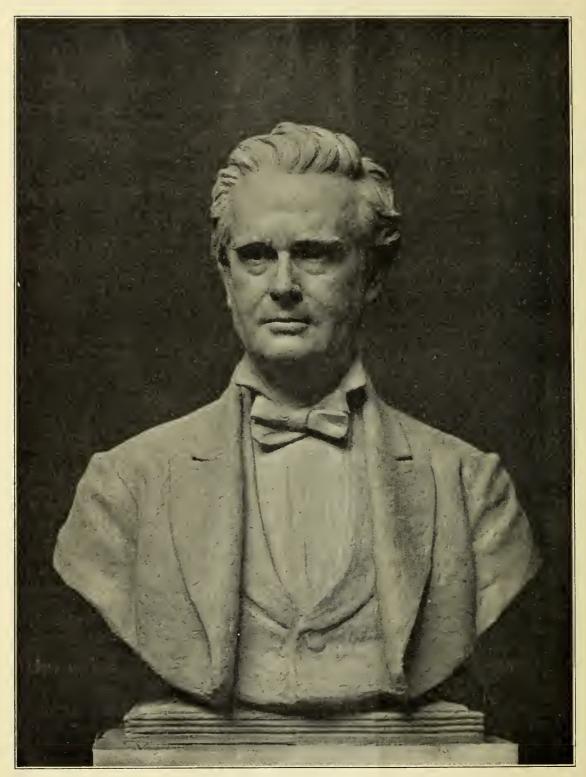
Friday, May 10, 4 P. M., has been selected as the most appropriate time for the unveiling of the Sims Memorial. This date, coming as it does at the close of the meeting of the State Medical Association in Charleston and the exercises taking place at Columbia, the Capital City, easily accessible and directly on the way home, should prove to be acceptable for the majority of the members of the South Carolina Medical Association. I feel that the physicians, who however anxious to get back to work, will be glad to pause and see the dreams of the Woman's Auxiliary to the South Carolina Medical Association come true. This splendid achievement is due largely to the masterly leadership and perseverance of Mrs. Daisy Lee Stuckey. The day will be a memorable one in the annals of medicine in South Carolina, a State so rich in historich epochs!

The doctors of South Carolina are not alone proud of Dr. Sims but medical men throughout the entire world who are true to their profession may breath a silent prayer that we will emulate him and certainly we can feel sure we are honored by being members of the profession he adorned. Are we too busy to pause and pay such a tribute to this great Carolinian? Not as a duty but for reverence and affection.

R. E. Hughes, President, South Carolina Medical Association.

POST GRADUATE COURSE IN THIS ISSUE

Elsewhere in this issue will be found full description of the Post Graduate Course for 1929 put on for the physicians of the State by the Medical College of the State of South Carolina at the request of the State Medical Association. This is a splendid opportunity not duplicated anywhere so far as we know in that



JAMES MARION SIMS

the courses are free of charge. The opportunity will be afforded during the meeting of the State Medical Association for members to arrange the details in regard to enrollment.

SOUTH CAROLINA MENTAL HYGIENE SOCIETY MEETS IN CHARLESTON

Members of the medical profession in this and other states will be interested in the program of the South Carolina Mental Hygiene Society which meets in Charleston May 17 and 18 under the Presidency of Dr. Sylvia Allen of Charleston. Two of the distinguished speakers will be Dr. George K. Pratt, Assistant Medical Director of the National Committee for Mental Hygiene and Dr. George S. Stevenson, Director of the Division on Community Clinics. This organization has been of tremendous inspiration along a line much neglected in the past by the public in general. The discussions in Charleston at this meeting should further stimulate the growth of this society which held a joint meeting during the meeting of the State Medical Association in Columbia last year.

HISTORY OF THE MEMORIAL TO DR. JAMES MARION SIMS

In 1909, Dr. S. C. Baker, Surgeon of Sumter, S. C., and President of the South Carolina Medical Association, in an address before the Convention at Summerville, proposed that the medical profession erect a life size statue of Dr. James Marion Sims on the Capitol Grounds at Columbia.

The following year 1010 a legislative act was passed, providing an appropriation of \$5,000 for the Memorial, this to be matched by a similar sum from the doctors.

Less than \$100 was collected, the movement lagged. The World War came on, Dr. Baker died in 1918 and the Memorial was lost sight of. But it was not forgotten, for, in the heart of a woman physician lingered the hope, that some day this hero of medicine would receive the belated honor and recognition due him of the people of his native State.

In November 1925 Dr. Sophia Brunson read a paper on "Health," at a Sumter County Federation meeting. She praised Dr. Sims for his wonderful achievement in the field of modern gynecology, which carried the fame of American surgery throughout the civilized world, and lamented the fact that there was not even a tablet in his native state to the memory of this great healer.

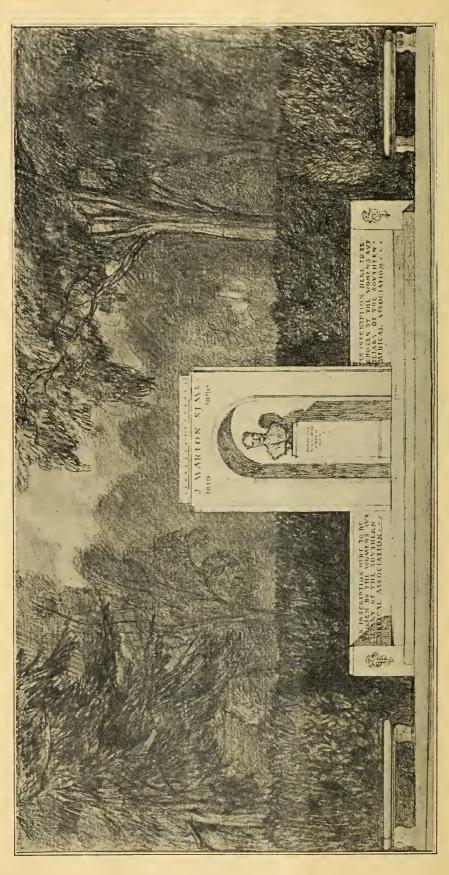
Another woman (the writer) though a native of a distant State was inspired, and at the organization of the Sumter County Woman's Auxiliary at her home in January 1926 she invited Dr. Brunson to speak on Dr. James Marion Sims. So great was the impression made on her hearers that the address was included in the program of the State Auxiliary meeting April 7, 1929 at Sumter. A resolution (offered by the writer) that the Auxiliary work to revive interest in the building of a Memorial to Dr. Sims met with unanimous approval of the assembled body.

The following officers were elected: H. M. Stuckey, President, Sumter, S. C.; Mrs. W. R. Wallace, Vice President, Chester, S. C.: Mrs. C. J. Lemmon, Secretary, Sumter, S. C.; Mrs. Wm. Boyd, Treasurer, Columbia, S. C.; Mrs. Frank Harvin, Publicity Secretary, Columbia, S. C. Plans were formulated, and the cooperation of the Medical Association secured to build the Memorial. As the name and works of Dr. Sims was almost unknown to this generation, an educational and publicity campaign was decided upon and begun at once. Many letters and newspaper articles were written which culminated in a state wide celebration of Sims Memorial Day, November 13, 1926 in the schools, colleges, clubs of the State.

One thousand pamphlets entitled, "An Appeal to the People of South Carolina," written by Dr. John Brunson, with a sketch of the life of Dr. Sims, written by Dr. Sophia Brunson were published and distributed.

At the Anderson meeting, the President of the Auxiliary was invited to appear before the Medical Association to report on the progress of the undertaking, exhibit the proposed design and outline plans to collect funds. She was given a vote of approval, and authority to proceed with the plan of asking each doctor and his wife to give (\$5.00) five dollars.

In January 1027 several hundred letters were written to prominent Carolinians in and out of



the State, to various organizations and individuals.

The greater part of the money was collected through the County Medical Auxiliaries.

This financial campaign resulted in the collection of about \$3,000.

At the Anderson meeting the President, Mrs. Stuckey, was given a second term in order to continue the work on the Sims Memorial which she had begun. The following officers were elected: Mrs. W. H. Nardin, Anderson, S. C., 1st. Vice President; Mrs. I. H. Grimball, Greenville, S. C., 2nd. Vice President; Mrs. Frank Wrenn, Anderson, S. C., Recording Secretary; Mrs. Wm. Boyd, Columbia, S. C., Treasurer; Mrs. C. J. Lemmon, Sumter, S. C., Corresponding Secretary; Mrs. M. L. Parler, Wedgefield, S. C., Publicity Secretary.

In December 1927 several newspapers published a Sims Memorial issue, containing interesting articles by Mr. Wm. Bodie, Mr. James Henry Rice, Jr., Dr. Robt. Wilson, Dr. Bunch and Officers of the Auxiliary. Mrs. M. L. Parler was responsible for the success of this issue, having collected the cuts and edited all the material.

In January 1928 (at the request of the President), the Honorable S. K. Nash introduced a new bill in the legislature asking for an appropriation equal to the sum collected by the Auxiliary. The bill was passed and the amount of \$3,000 turned over to the Treasurer, Mrs. Wm. Boyd.

At the Columbia meeting in April 1928 the Sims Committee was formed. Mrs. H. M. Stuckey was elected Chariman, the Committee consisting of the Officers of the Woman's Auxiliary and three members appointed by the President of the Medical Association. They were Doctors Julius H. Taylor, Columbia, S. C., Edgar A. Hines, Seneca, S. C., and A. Johnson Buist, Charleston, S. C.

In the committee's choice of sculptor and architect, invaluable assistance was given by the well known artist Mrs. Marcellus Whaley of Columbia. It had been decided that the form of the Memorial would be a bronze bust of Dr. Sims placed in a classic setting of granite.

Messrs. Edmond Quinn and Harold Sterner of New York City were employed, and the work

begun in June 1928 is now completed and ready for unveiling.

The handsome Memorial is situated on the South east corner of the Capitol Grounds, Columbia, on the site selected by the sculptor. It is built of Mt. Airy, N. C., granite in the form of a panelled background containing a niche for the pedestal, on which rests the beautiful bronze bust of Dr. Sims. A Hippocratic Aphorism in bronze lettering adorns the pedestal, and an inscription emblazoning the wonderful achievement of this great and good man, is engraved on either wing of the Memorial.

The Consolidated Stone Company in Columbia erected the Memorial and the cost is something over \$6,000.

It is a source of gratification to the Committee and Auxiliary that our dream of three long years has become a reality, and that our work is translated into this beautiful Memorial.

The Woman's Auxiliary of South Carolina has justified its existence by faithfully completing the first great work entrusted to it by the Medical Association.

The Sims Memorial represents the loving devotion of grateful hearts to a great benefactor, and it is a loving shrine to South Carolina Womanhood.

Dr. Sims possessed in a marvelous degree the ideal qualities necessary in a great surgeon.

The brain of an Apollo

The heart of a lion

The eye of an eagle

The hand of a woman.

He used these gifts to bless and enrich the human race—particularly women.

"If the service James Marion Sims rendered to the world could be measured he would deserve a statlier Memorial than any Carolinian who ever lived."

Mrs. H. M. Stuckey,

Chairman of the Sims Memorial Committee.

AN APPRECIATION

To the splendid Officers and Councilors of the Woman's Auxiliary, to the faithful members of the Sims Memorial Committee, to the Editors of the Journal of the South Carolina Medical Association and State newspapers, to the doctors, nurses, club women and friends I wish to express my deep appreciation of the friendly cooperation and financial aid, without which it would have been impossible to build the beautiful Memorial to Dr. James Marion Sims. Sincerely,

Mrs. H. M. Stuckey, Chairman of the Sims Memorial Committee.

DESCRIPTION OF THE MEMORIAL TO DR. J. MARION SIMS, COLUMBIA, SOUTH CAROLINA

This memorial is erected in the angle formed by Senate and Sumter Streets on the South West corner of the State Capitol grounds. The monument is designed in the Greek style along simple lines and is executed in dressed granite. The monument is flat in form, the center portion rises and is flanked on each side with lower stones terminating at each end with pilasters at the height of the low stone. In front of the monument is a granite segmented platform with three steps approaching the monument. In front of these steps there is a plaza made of concrete with various colored pebbles made up into panels. The center stone of the monument is seven feet six inches wide and ten feet nine inches high, made of four pieces of stone in the center of which is a recessed panel. The main feature of the monument is a bust of Dr. Sims, executed by Mr. Edmond Quinn, sculptor, which will rest on a granite pedestal engaged in the center panel. The name of Dr. Sims and dates of his birth and death are carved into the center stone and a suitable inscription executed in bronze raised letter is on the pedestal below the bust. Inscriptions of the deeds of Dr. Sims are carved on the stones flanking the center. On each pilaster at ends of the lowstones are carved a caduceus, emblematical of the medical profession. On each side of the plaza approaching the monument has been built two carved stone benches. The monument was designed by Harold Sterner, Architect.

PROGRAM OF UNVEILING CEREMON-IES OF THE SIMS' MEMORIAL

Invocation—Dr. John Brunson, Pastor Grace Baptist Church, Sumter, S. C.

Music—The Recessional—University of S.

C. Glee Club. Directed by Maurice Matteson.
Unveiling of the bust of Dr. James Marion
Sims. By James Marion Sims Witherspoon.

(Grand nephew of Dr. Sims).

Introduction of the officers of the Woman's Auxiliary and the members of the Sims Memorial Committee. By Dr. Julius H. Taylor, Columbia, S. C.

Presentation of the Sims' Memorial to the S. C. Medical Association. By Mrs. Henry Mortimer Stuckey, Chairman of the Sims Memorial Committee.

Presentation of the Sims Memorial to the State. By Dr. R. E. Hughes, President S. C. Medical Association.

Acceptance of the Sims Memorial for the State. By Governor John G. Richards.

Address—James Marion Sims, M. D. By Mr. James Rice, Jr.

Memorial wreath placed on bust. By President of Lancaster Chapter of U. D. C.

Music—Carolina Evermore—Music by Mrs. H. M. Stuckey. University of S. C. Glee Club. Benediction—Dr. John Brunson.

SPECIAL INVITATION TO DONORS

The Sims' Memorial Committee request the honor of your presence at the unveiling ceremonies of the Memorial to Dr. James Marion Sims on Friday afternoon, May 10, 1929, Capitol Grounds, Columbia, S. C.

DEATH OF DR. SPARKMAN

The passing of Dr. W. B. Sparkman of Greenville in the very prime of his usefulness as a surgeon excites more than ordinary sympathy throughout the State. Dr. Sparkman was a comparatively young man who had quietly but surely forged to the front in his profession. He had contributed a number of creditable papers to the Journal and before medical societies.

Dr. Sparkman had rendered an important service to his country as a military surgeon during the World War and in many other ways had endeared himself to a wide circle of acquaintances. He will be keenly missed in organized medicine.

CHARLESTON, A PERSONALITY

"America's Most Beautiful City": "A Foreign City in the United States": "America's Most Historic City": "The Queen City of America": these and other attempts of well-known people have tried to name Charleston. Robert Marks says, "Its spirit has never fully been caught in print because, properly, there is no 'Charleston'."

To one who has known Charleston in a certain way; to one who has grown up elsewhere and then has come to know her; to one who has come to know her intimately and then has gone to live elsewhere; she becomes more than all these, more than a city which may be called by various attractive phrases, she becomes a Personality. Here men and women and little children have lived lives of such a character that it seems they have imparted some of their spirit, some of their very being, to the environs, something tangible which comes to impress itself upon the consciousness of a student of humankind and its products, something "feelingable", as the old Darkie said.

To the visitor this impression may not come, although even a visitor who is a close observer and student may obtain the feeling of its existence. To know a personality one must live in companionship with it.

To the visitor the more tangible things belonging to Charleston are the things of interest.

In any city one wants to know of its edacational interests and facilities. In Charleston one finds a thorough and complete system of public education, from kindergarten in the Ward schools to the Academic degree from the College of Charleston, and a citizen of this municipality may obtain a completed general education at public expense. In addition there are two State schools, the Citadel and the Medical College of the State of South Carolina, standing in the highest ranks of their respective fields. There are also a number of Church schools, special schools for Negroes, a public vocational school, and private schools of several orders.

To medical people a great interest will be in the medical center consisting of the several parts and plants of the Medical College of the State of South Carolina and the Roper Hospital, institutions old in experience in training physicians and nurses and pharmacists and young in progressive development and extension of their services to the people of the State.

Charleston's Commercial Attributes naturally relate to her port facilties. Into a beautiful and splendid harbor enter ships from the world, and in the past few years her growth as a port has been particularly progressive.

Of her 160 factories and industrial plants those of the oil companies, particularly the Standard, and of the fertilizer and chemical industries are conspicuous.

Of roads Charleston has the most beautiful, entering from the South over the magnificent Ashley River Memorial Bridge and from the North entry will soon be over the Cooper River Bridge, now under construction.

Of beaches there are three of unexcelled character within a few minutes drive.

Perhaps Charleston is more widely known for the world famous Magnolia and Middleton Gardens than for any one other feature. Here come thousands of pilgrims each Spring. The Grand Canyon has never been described in words, neither have these gardens.

Of the U. S. Navy Yard, where come the defenders of the Country; of the Army post and its tremendous guns; of Fort Moultrie, reminiscent of the birth War of the Nation and of Jasper and Osceola; of Fort Sumter, shrine of the Confederate romance; of the famous churches, St. Michaels with her precious chimes and haunting memories of Washington and Lafavette, St. Philips with her centuries old mariners signal light; the French Huguenot, bespeaking an important element of pioneers, and the only one of its kind in this country, St. James on Goose Creek, still with the Royal Coat of Arms of Britain over her altar and, I believe, still subject to the church of England, if any, etc., etc.; of the relics of Revolutionary, Confederate and World Wars; of the magnificent old homes and estates, breathing the romance of a time which is gone; of the Battery; of the Bay and its tributary rivers; of the beautiful and romantic sea islands; of the Charleston Country Club, which Joe Kirkwood says has the "the third best (golf course) in America"; of the great prog-



MEDICAL COLLEGE OF THE STATE OF S. C., MAIN BUILDING

ress of recent years in the industries, in roads and bridges (Ashley, Cooper, Santee, Edisto), and in paving; of the hunting, the fishing, the boating, the swimming, the climate; of each of these and more one might write separately and at more length than is here permissible for all.

Of her spirit, as Adams Hayne said, "War and pestilence she has known, fire and tornado, earthquake and oppression, and never has she bowed her head".

All in all, Charleston is the most interesting place on this continent and one of the most

interesting and inspiring on the globe. Come and see.

K. M. L.

FINAL PROGRAM SOUTH CAROLINA MEDICAL ASSOCIATION CHARLESTON, S. C.

May 7, 8 and 9, 1929 OFFICERS

- J. R. YOUNG, M. D_____First Vice-President Anderson.



LABORATORIES OF PHYSIOLOGY, PHARMACOLOGY AND EXPERIMENTAL SURGERY. MEDICAL COLLEGE OF THE STATE OF S. C.

H. GRADY CALLISON, M. DSecond Vice-Pres.	Committee on Study and Prevention of Venereal
Newberry.	Diseases
R. M. FUI LER, M. DThird Vice-President Greenwood.	Dr. George Neel, ChairmanGreenwood, S. C.
E. A. HINFS, M. DSecretary-Treasurer	Dr. O. F. FinkleaFlorence, S. C.
Seneca.	Dr. C. N. WyattLaurens, S. C.
COUNCILORS	Committee on Constitution and By-Laws
First District—	Dr. J. H. Cannon, Chairman_Charleston, S. C.
J. H. Cannon, M. DCharleston Second District—	Dr. Jas. S. FoucheColumbia, S. C. Dr. E. A. HinesSeneca, S. C.
S. E. Harmon, M. D., ChairmanColumbia	Committee on Medical Education
Third District—	Dr. G. McF. Mood, Ch'mnCharleston, S. C.
T. L. W. Bailey, M. DClinton Fourth District—	Dr. H. S. BlackSpartanburg, S. C.
R. C. Bruce, M. DGreenville	Dr. C. B. EppsSumter, S. C.
Fifth District— J. R. Des Portes, M. DFort Mill	Dr. R. L. KirkpatrickBennettsville, S. C. Dr. Lee W. MilfordClemson College, S. C.
Sixth District—	Local Committee on Arrangements
C. R. May, M. DBennettsville	
Seventh District— T. R. Littlejohn, M. DSumter	Dr. Kenneth M. Lynch, Chairman; Dr. H. P. Jackson, Dr. W. Atmar Smith, Dr. C. W. Kol-
Eighth District—	lock, Dr. Francis L. Parker, Dr. J. H. Cannon,
J. E. Warnock, M. DAllendale	Dr. Olin B. Chamberlain, Dr. T. E. Bowers, Dr. A. E. Baker, Jr., Dr. J. W. Burns.
OFFICIAL STENOGRAPHER	A. E. Baker, Jr., Dr. J. W. Burns.
Miss Mary RobinsonRaleigh, N. C.	FINAL PROGRAM
COMMITTEES FOR 1928-29	HOUSE OF DELEGATES
Committee on Scientific Work	TUESDAY, MAY 7, 8:00 P. M.
Dr. Hugh Smith, Chairman_Greenville, S. C.	
Di. Hugh Smith, Chair Man 2 Green inc., S. C.	· FRANCIS MARION HOTEL
Dr. J. H. CannonCharleston, S. C.	FRANCIS MARION HOTEL
	General Order will be as follows:
Dr. J. H. Cannon Charleston, S. C. Dr. J. H. Taylor Columbia, S. C.	FRANCIS MARION HOTEL
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leav-
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithGreenville, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithGreenville, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C. Committee on Health and Public Instruction	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce. Fifth District—Dr. J. R. Des Portes.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C. Committee on Health and Public Instruction Dr. G. T. Tyler, ChairmanGreenville, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce. Fifth District—Dr. J. R. Des Portes. Sixth District—Dr. C. R. May. Seventh District—Dr. T. R. Littlejohn. Eighth District—Dr. J. E. Warnock.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C. Committee on Health and Public Instruction Dr. G. T. Tyler, ChairmanGreenville, S. C. Dr. Roddy MillerRock Hill, S. C. Dr. F. A. BellRock Hill, S. C. Committee On Military Affairs	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce. Fifth District—Dr. J. R. Des Portes. Sixth District—Dr. C. R. May. Seventh District—Dr. T. R. Littlejohn. Eighth District—Dr. J. E. Warnock. Report of Scientific Committee.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C. Committee on Health and Public Instruction Dr. G. T. Tyler, ChairmanGreenville, S. C. Dr. Roddy MillerRock Hill, S. C. Dr. F. A. BellRock Hill, S. C. Dr. F. A. BellRock Hill, S. C. Committee On Military Affairs Dr. C. W. Kollock, Chairman Charleston, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce. Fifth District—Dr. J. R. Des Portes. Sixth District—Dr. C. R. May. Seventh District—Dr. T. R. Littlejohn. Eighth District—Dr. J. E. Warnock.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C. Committee on Health and Public Instruction Dr. G. T. Tyler, ChairmanGreenville, S. C. Dr. Roddy MillerRock Hill, S. C. Dr. F. A. BellRock Hill, S. C. Committee On Military Affairs	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce. Fifth District—Dr. J. R. Des Portes. Sixth District—Dr. T. R. Littlejohn. Eighth District—Dr. J. E. Warnock. Report of Scientific Committee. Report of Committee on Legislation. Report of Committee on Constitution and By-Laws.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C. Committee on Health and Public Instruction Dr. G. T. Tyler, ChairmanGreenville, S. C. Dr. Roddy MillerRock Hill, S. C. Dr. F. A. BellRock Hill, S. C. Dr. F. A. BellRock Hill, S. C. Dr. Geommittee On Military Affairs Dr. C. W. Kollock, Chairman Charleston, S. C. Dr. James DavisClinton, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce. Fifth District—Dr. J. R. Des Portes. Sixth District—Dr. T. R. Littlejohn. Eighth District—Dr. J. E. Warnock. Report of Scientific Committee. Report of Committee on Legislation. Report of Committee on Constitution and By-Laws. Report of State Board of Health.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C. Committee on Health and Public Instruction Dr. G. T. Tyler, ChairmanGreenville, S. C. Dr. Roddy MillerRock Hill, S. C. Dr. F. A. BellRock Hill, S. C. Dr. F. A. BellRock Hill, S. C. Dr. James DavisClinton, S. C. Dr. James DavisClinton, S. C. Dr. J. M. BeardenLaurens, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce. Fifth District—Dr. J. R. Des Portes. Sixth District—Dr. T. R. Littlejohn. Eighth District—Dr. J. E. Warnock. Report of Scientific Committee. Report of Committee on Legislation. Report of Committee on Constitution and By-Laws. Report of State Board of Health. Report of Committee on Health and Public Instruction.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchChester, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C. Committee on Health and Public Instruction Dr. G. T. Tyler, ChairmanGreenville, S. C. Dr. Roddy MillerGreenville, S. C. Dr. F. A. BellGeorgetown, S. C. Committee On Military Affairs Dr. C. W. Kollock, Chairman Charleston, S. C. Dr. James DavisClinton, S. C. Dr. J. M. BeardenLaurens, S. C. Dr. E. E. EptingAnderson, S. C. Committee on Necrology Dr. W. A. Boyd, ChairmanColumbia, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce. Fifth District—Dr. J. R. Des Portes. Sixth District—Dr. T. R. Littlejohn. Eighth District—Dr. J. E. Warnock. Report of Scientific Committee. Report of Committee on Legislation. Report of State Board of Health. Report of Committee on Health and Public Instruction. Report of State Board of Medical Examiners.
Dr. J. H. CannonCharleston, S. C. Dr. J. H. TaylorColumbia, S. C. Dr. R. E. Hughes, PresidentLaurens, S. C. Dr. E. A. Hines, SecretarySeneca, S. C. Committee on Legislation Dr. M. H. Wyman, ChairmanColumbia, S. C. Dr. L. O. MauldinGreenville, S. C. Dr. W. A. SmithCharleston, S. C. Committee on Hospital Standardization Dr. J. M. Beeler, ChairmanSpartanburg, S. C. Dr. Frank WrennAnderson, S. C. Dr. Geo. H. BunchColumbia, S. C. Dr. R. E. AbelChester, S. C. Dr. D. L. SmithSpartanburg, S. C. Committee on Health and Public Instruction Dr. G. T. Tyler, ChairmanGreenville, S. C. Dr. Roddy MillerGreenville, S. C. Dr. F. A. BellGeorgetown, S. C. Committee On Military Affairs Dr. C. W. Kollock, Chairman Charleston, S. C. Dr. James DavisClinton, S. C. Dr. J. M. BeardenLaurens, S. C. Dr. E. E. EptingAnderson, S. C.	General Order will be as follows: Committee on Credentials will convene at 7:30 p. m. Delegates should obtain credentials before leaving home. Called to order by the President at 8:00 p. m. Report of Committee on Credentials. Address by the President. Report of Secretary-Treasurer. Report of Councilors. Report of Chairman, Dr. S. E. Harmon. First District—Dr. J. H. Cannon. Second District—Dr. S. E. Harmon. Third District—Dr. T. L. W. Bailey. Fourth District—Dr. R. C. Bruce. Fifth District—Dr. J. R. Des Portes. Sixth District—Dr. T. R. Littlejohn. Eighth District—Dr. J. E. Warnock. Report of Scientific Committee. Report of Committee on Legislation. Report of Committee on Constitution and By-Laws. Report of State Board of Health. Report of Committee on Health and Public Instruction.



ONE OF THE PAVILIONS AT PINEHAVEN, CHARLESTON COUNTY TUBERCULOSIS SANATORIUM

Report of Committee on Prevention of Venereal Diseases.

Report of Committee on Efficiency and Hospital Standardization.

Report of Committee on Military Affairs.

Report of Committee on Necrology.

Report of Committee on Medical Education.

Introduction of New Business.

Miscellaneous Business.

Election of Officers.

Adjournment.

SCIENTIFIC SESSION

Francis Marion Hotel TUESDAY, MAY 7, 1929 3:30 to 5:30 P. M.

CLINICS

Final Program

Roper Hospital. Clinics by Faculty.

3:30 P.M. Pediatric Clinic-Dr. M. W. Beach.

4:00 P. M. Cardio-renal Clinic—Dr. J. H. Cannon.

4:30 P. M. Neurological Clinic—Dr. O. B. Chamberlain.

5:00 P. M. Hyperthyroidism, Clinical Considerations—Dr. Wm. H. Prioleau.

5:00 P. M. X-Ray Clinic, for Radiologists— Drs. Taft and Palmer.

4:30 P. M. Pinehaven (Charleston County Tuberculosis Sanatorium) Artificial Pneumothorax Clinic—Dr. W. A. Smith.

WEDNESDAY, MAY 8, 9 A. M.

Call to order by the President. Invocation by Dr. William Way, Rector of Grace Church, Charleston.



Address of Welcome by Mayor Thomas P. Stoney.

Address of Welcome on behalf of the Medical Society of South Carolina, by Dr. Henry P. Jackson, President.

Response.

PRESIDENT'S ADDRESS

By Dr. R. E. Hughes, Laurens, S. C. Presentation of gavel by Dr. Baxter Haynes, Spartanburg, S. C.

" In Memory of Our Dead Comrades"

Gavel made of wood from Orente Province, Cuba.

Received by Dr. C. W. Kollock, Charleston, S. C.

PAPERS

Reading time of papers fifteen minutes. Discussion five minutes.

1

Vegetable Food and the Goitre Problem.

By Dr. Roe E. Remington, Director of Laboratory, S. C. Food Research Commission, Medical College of the State of South Carolina, Charleston, S. C.

Discussion opened by Dr. William Weston, Columbia, S. C.

2

Some Observations on First Reported Cases of Malta Fever in South Carolina.

By Dr. E. A. Hines, Seneca, S. C.

Discussion opened by Dr. W. K. Lewis, State
Veterinarian and Director Clemson College
Live Stock Sanitary Department, Columbia,
S. C., and Dr. H. M. Smith, Director State
Board Health Laboratory, Columbia, S. C.

3

Osgood-Schlatter's Disease (moving picture film).

By Dr. R. B. Taft, Charleston, S. C.

Discussion opened by Dr. A. J. Buist, Charleston, S. C., and Dr. J. Warren White, Greenville, S. C.

4

Peptic Ulcer Observation Based on 93 Cases (Lantern Slides).

By Dr. Sam Orr Black, Spartanburg, S. C.

Discussion opened by Dr. Charles A. Mobley, Orangeburg, S. C., and Dr. R. E. Abell, Chester, S. C.

õ

A report of Some Traumatic Surgical Cases.

By Dr. T. B. Reeves, Greenville, S. C.

Discussion opened by Dr. J. Warren White, Greenville, S. C., and Dr. Le Grand Guerry, Columbia, S. C.

-(

Certain Surgical Problems of the General Practitioner. By Dr. J. H. Taylor, Columbia, S. C.

Discussion opened by Dr. Robt. Abell, Chester, S. C., and Dr. William Rhett, Charleston, S. C.

Recess 1:00 to 2:30 P. M.

AFTERNOON SESSION

2:30 to 6:00 P. M.

7

Review of Findings on 100 Cases of Head Injury.

By Dr. D. L. Maguire, Charleston, S. C.

Discussion opened by Dr. Olin B. Chamberlain, Charleston, S. C., and Dr. T. E. Bowers, Charleston, S. C.

R

Some Uses of Magnesium Sulphate in Surgical Practice.

By Dr. J. R. Young, Anderson, S. C.

Discussion opened by Dr. F. H. McLeod, Florence, S. C., and Dr. J. S. Rhame, Charleston, S. C.

9

Heart Wounds, Their Management, Treatment and History, with the Presentation of a Patient.

By Dr. R. G. Doughty, Columbia, S. C.

Discussion opened by Dr. S. W. Talbert, Columbia, S. C., and Dr. Le Grand Guerry, Columbia, S. C.

10

Some Diagnostic and Therapeutic Problems. By Dr. Roy P. Finney, Spartanburg, S. C.

Discussion opened by Dr. Hugh Smith, Greenville, S. C., and Dr. Robt. Houseal, Newberry, S. C.

11

Aplastic Forms of Anemia.

By Dr. W. R. Mead, Florence, S. C.

Discussion opened by Dr. O. B. Mayer, Columbia, S. C., and Dr. J. R. Price, Florence, S. C.

12

Tuberculosis of the Stomach, with Report of a Case.

By Dr. G. T. Tyler, Greenville, S. C.

Discussion opened by Dr. Julius H. Taylor, Columbia, S. C., and Dr. O. B. Mayer, Columbia, S. C.

Recess 6:00 to 8:00 P. M.

NIGHT SESSION—VICTORY THEATRE 8:00 to 10:00 P. M.

Early Diagnosis and Treatment of Brain Tumors. By Dr. Walter E. Daudy, Johns Hopkins Hospital, Baltimore, Maryland.

The Significance of Retinitis in Hypertension.

By Dr. Henry P. Wagener, Mayo Clinic, Rochester, Minnesota.

Motion picture film showing the growth and be-



COLLEGE OF CHARLESTON

Committee.

THURSDAY, MAY 9, 1929

FRANCIS MARION BALL ROOM 8:30 A. M.

> Morning Session CLINICS

Pathological Conference—Dr. Kenneth M. Lynch, Charleston, S. C., and Dr. Robert Wilson, Charleston, S. C.

Surgical Clinic-Dr. F. H. McLeod and Dr. P. D. Hay, Florence, S. C.

havior of cancer cells, by the State Cancer Pediatric Clinic-Dr. Wm. Weston, Columbia, S. C.

> Orthopedic Clinic-Dr. J. Warren White, Greenville, S. C.

Medical Clinic-Dr. Hugh Smith, Greenville, S.

Afternoon Session 2:00 P. M.

PAPERS

13

Foreign Bodies, including a Revolver Bullet, Obstructing the Urethra. By Dr. Marion H. Wyman, Columbia, S. C.



COOPER RIVER WATER FRONT

Discussion opened by Dr. Le Grand Guerry, Columbia, S. C., and Dr. R. S. Cathcart, Charleston, S. C.

14

Toxemia of Pregnancy.

ville, S. C.

By Dr. H. W. DeSaussure, Charleston, S. C. Discussion opened by Dr. R. E. Seibels, Columbia, S. C., and Dr. L. A. Wilson, Charleston, S. C.

15

Some Unusual Complications of Pregnancy and Labor with a Brief Report of a Few Cases. By Dr. Willard C. Hearin, Greenville, S. C. Discussion opened by Dr. L. A. Wilson, Charleston, S. C., and Dr. J. D. Guess, Green-

16

History of the Vaginal Speculum.

By Dr. R. E. Seibels, Columbia, S. C.

Discussion opened by Dr. Julius H. Taylor, Columbia, S. C.

17

The Physiology of the Kidneys with Clinical Applications.

By Dr. J. Van de Erve, Medical College, Charleston, S. C.

Discussion opened by Dr. J. H. Cannon, Charleston, S. C₁, and Dr. F. Raymond Price, Charleston, S. C.

18

The General Practitioner and the Medical Society

By Dr. J. A. Norton, Conway, S. C.

Discussion opened by Dr. Z. G. Smith, Marion, S. C., and Dr. G. H. Westrope, Lexington, S. C.

COMMERCIAL EXHIBITORS

- 1. Victor X-Ray Corporation.
- 2. J. A. Majors Co.
- 3. Mellins Food.
- 4. Mead, Johnson & Co.
- 5. Powers and Anderson.
- 6. Winchester Surgical Supply Co.

SCIENTIFIC EXHIBITORS

- American Medical Association, Bureau of Health and Public Instruction.
- American Medical Association Bureau of Investigation.
- 3. American Heart Association.
- 4. American Social Hygiene Association.
- Clemson College Live Stock Sanitary Department: Abortus Infection in Cattle.
- Food Research Commission (Dr. Remington).
- 7. Department of Clinical Pathology, Medical College of the State of South Carolina.

- 8. Department of Pathology, Medical College of the State of South Carolina.
- Metropolitan Life Insurance Company of New York, New York.
- National Tuberculosis Association, The South Carolina Branch of Columbia, S. C.
- Department of Anatomy, Medical College of the State of South Carolina.
- Dr. R. B. Taft, X-Ray Department, Medical College of the State of South Carolina.
- Dr. William Weston, Columbia, South Carolina.
- Dr. J. Warren White, Shrine Hospital of Greenville, South Carolina.
- Retinal and other Defects in Eye Ground, Dr. H. P. Wagener, Rochester, Minn.

WOMAN'S AUXILIARY

ENTERTAINMENT

Tuesday, May 7.

4:00 p. m. Beach party. Residence of Mrs. A. E. Baker, Folly Beach.

Wednesday, May 8.

- 10 a. m. Business Meeting, St. Michael's Parish House, Meeting St.
- 1:00 p. m. Luncheon, Brewton Inn, given by the local Woman's Auxiliary to the Medical Society.
- 2:30 p. m. Business Meeting, St. Michael's Parish House.
- 5-7 p. m. Tea, Complimentary to Patriotic Societies and the Medical Auxiliary, by Auxiliary to Post No. 10, American Legion.

Thursday, May 9th.

10 a. m. to 12 m. Boat trip to Fort Sumter.

HIGH SPOTS OF THE CHARLESTON MEETING AND OTHER INFORMATION

MAY 7, 8, and 8, 1929

Our Invited Gnests

We are extremely fortunate this year in the calibre of the invited guests. Dr. Walter E. Dandy, Associate Professor of Surgery, at the far famed Johns Hopkins Medical School and Hospital is one of the outstanding neurologic surgeons of the world. He has contributed largely to the literature and is indeed a speaker of unusual ability.

Dr. Henry P. Wagener, of the great Mayo Clinic, Associate Professor of Ophthamology in the graduate school there, is a South Carolinian whose attainments in the world's greatest clinic reflects credit on his native State.

Dr. Roe E. Remington, Director of the Laboratory, South Carolina Food Research Commission, at our State Medical College has already won for himself an enviable reputation. South



CHARLESTON NAVY YARD

Carolina has been brought into the lime-light throughout the nation as a result of the activities of this Commission.

Outstanding Scientific Papers

One of the interesting surgical problems is that of the resources available when the doctor comes face to face suddenly with a serious wound of the heart. A paper on this rare accident will be read and the patient presented.

In recent months the State Board of Health Laboratory in conjunction with a number of physicians in different parts of the State has brought to the attention of the profession the fact that Malta Fever has invaded South Carolina. A paper will be presented on this subject and the Directors of both the State Board of Health Laboratory and the Clemson College Live Stock Sanitary Laboratory will participate in the discussion. It is expected that there will be a scientific exhibit bearing on this disease from the Bureau of Animal Industry, Washington, D. C.

The surgical papers cover a wide range of subjects and should prove to be especially attractive to the general practitioner.

A moving picture film especially prepared for the Charleston meeting on Osgood-Schlatters disease will be shown. This feature promises to be of unusual interest.

For several years the Scientific Committee has encouraged papers on obstetrical subjects owing to the high maternal mortality in South



ASHLEY RIVER MEMORIAL BRIDGE



INSIDE YACHT ROUTE. FROM QUEBEC TO FLORIDA ENTERING CHARLESTON HARBOR

Carolina. On the program will be found several obstetrical papers worthy of note.

Clinics

For many months elaborate preparations have been in progress toward making this annual session preeminently a clinical meeting. The facilities in Charleston with the experience of more than a hundred years as a teaching center assures success of this idea.

Scientific Exhibits

The greatest effort ever put forth by the Association has been made this year to enlarge the scope of scientific exhibits. These exhibits have come to mean a distinct addition to the educational value of the State Medical Association.

Commercial Exhibits

In recent years the Association has favored more extensive commercial exhibits in order that the profession may have first hand knowledge of these accessories of medical practice.

Woman's Auxiliary

The Woman's Auxiliary meeting offers a rare opportunity for social contact in the city of Charleston, world famous for its charming hospitality.

Entertainments

The President's reception at the Francis Marion Hotel on the evening of May 8 will enable the profession of the State to meet the citizens



HAMPTON PARK, CHARLESTON



THE CITADEL, MILITARY COLLEGE OF S. C.

of Charleston at a function which has now become an event looked forward to with the keenest pleasure each year. Dancing will follow the reception.

Almmni Meetings

The assembling in the shadow of South Carolina's time honored medical school presents an unusual opportunity for not only the graduates of our State school but the alumni of all other medical schools to come together in the common cause of higher medical education in South Carolina and the South.

Golf

Members of the Association will be invited to play on the Wappo Links of the Charleston Country Club as they desire.

Eye, Ear, Nose & Throat Society

The South Carolina Society of Ophthalmology and Oto-Laryngology will hold a Business Meeting May 8.

Public Health Meeting

One of the spectacular allied societies in its rapid growth, intensity of interest and beneficent purpose is the South Carolina Public Health Association. The meeting will be held on Tuesday, May 7.

Pediatric Society

The South Carolina Pediatric Society will hold a meeting as usual and an invitation is extended to every physician in the State who has a keen desire to know more about the diseases



THE BATTERY, CHARLESTON



FORT SUMTER

of children to be present and join the Society. The Society is now on a solid foundation, growing rapidly and is a power in the State for the promotion of child welfare and the practice of scientific pediatrics.

Fraternal Delegates

The following delegates have been appointed by the Georgia Medical Association to attend the meeting in Charleston: Drs. C. S. Jernigan, Sparta, and V. P. Sydenstricker, Augusta.

Hotels

The following information is available in regard to hotels: The Francis Marion Hotel. Headquarters and place of meeting, will accommodate as many as 300 at a \$3.00 rate, except for single rooms. Anyone wanting a single room or special accommodations may make reservations at regular rates. The Fort Sumter has a rate of \$3.50 to \$4.00 per day for single rooms and \$5.00 to \$6.00 for rooms occupied by two persons. The St. Johns Hotel, single with bath \$2.50, double with bath \$2.00 per person, single without bath \$1.50, double without bath \$1.25 per person. Charleston Hotel, single without bath, \$1.50, double without bath \$3.00, single with bath \$2.50, double with bath \$4.00. Argyle Hotel, \$1.50 per person without bath, \$2.00 to \$2.50 per person with bath. Timrod Inn, one person with bath \$1.75, \$2.00 and \$2.50; one person without bath \$1.25 and \$1.50, two persons with bath \$3.50 to \$4.00, two persons without bath \$2.50. Reservations may be made directly with the hotel desired or through Dr. H. P. Jackson, 109 Broad St., or Dr. Kenneth M. Lynch, Medical College, both of Charleston, S. C.

PROGRAM OF THE SOUTH CAROLINA PUB-LIC HEALTH ASSOCIATION, ANNUAL MEETING, FRANCIS MARION HOTEL, CHARLESTON, S. C., MAY 7, 1929

Morning Session, 10:00 A. M.

Meeting called to order—H. Grady Callison, M. D., County Health Officer, Newberry, S. C., President of the Association.

Invocation—Reverend William Way, Charleston, S. C.

Address of Welcome—Honorable Thomas P. Stoney, Mayor of Charleston, S. C.

Response—James A. Hayne, M. D., State Health Officer, Columbia, S. C.

Immunity—George McF. Mood, M. D., Professor of Bacteriology and Hygiene, Medical College of the State of South Carolina, Charleston, S. C.

Cancer Control—Kenneth M. Lynch, M. D., Professor of Pathology, Medical College of the State of South Carolina, Charleston, S. C.

The Use and Mis-use of the Laboratory—F. B. Johnson, M. D., Professor of Clinical Pathology, Medical College of the State of South Carolina, Charleston, S. C.

A Rational Basis for a Program of Improving the Hygiene of Maternity and Infancy, with a Record of the Progress made in Savannah, Georgia—V. H. Bassett, M. D., County and City Health Officer, Savannah, Ga.

Can South Carolina Eredicate Diphtheria?—Paul Eaton, M. D., Associate Professor of Preventive Medicine, Medical Department, University of Georgia, Augusta, Ga.

ls Rural Sanitation Improving?—A. E. Legare, B. S., C. E., Sanitary Engineer, State Board of Health, Columbia, S. C.

A Combination County and City Health De-



ROAD OUT OF CHARLESTON

partment—Leon Banov, M. D., County and City Health Officer, Charleston, S. C.

The County Health Unit—John B. Setzler, M. D., County Health Officer, Dillon, S. C.

The Hospital in a Public Health Program— J. Moss Beeler, M. D., Superintendent of Spartanburg General Hospital and County Health Officer, Spartanburg, S. C.

Lunch 1:30 P. M., Francis Marion Hotel.

Afternoon Session, 3:00 P. M.

Committee Reports:
Executive Committee.
Membership Committee.
Auditing Committee.
Publicity Committee.
Miscellaneous Business.

Election of Officers. Adjournment.

Officers

H. Grady Callison, M. D. _____ President
Newberry, S. C.
Miss Nellie C. Cunningham ____ Sec.-Treas.
Columbia, S. C.

POST GRADUATE COURSE MEDICAL COLLEGE, STATE OF SOUTH CAROLINA

ANNOUNCEMENT

A third post graduate course will be conducted by the Medical College of the State of South Carolina, beginning May 27th and extending



MAGNOLIA GARDENS, CHARLESTON

through June 8th. This course is being given in response to the request of the State Medical Association, made in 1927. The success of the first undertaking has warranted the attempt to hold it annually. It is offered especially to members of the profession of South Carolina, and alumni of this College, but any physicians who desire to attend will be welcome.

No charges will be made.

DESCRIPTION OF COURSE

Clinics will be given at the Roper Hospital by the Faculty of the College. The greatest amount of time will be devoted to internal medicine, pediatrics, surgical diagnosis and obstetrics. Visiting physicians will be given the opportunity of examining patients and will be encouraged to enter into the discussions. An opportunity to study diagnosis if offered by the abundant material in the wards of the hospital. The class will be divided into several groups, under direction of the clinical teacher in order that individual instruction be given. The facilities of Pinehaven Sanatorium have been made available for

instruction, and two afternoon periods will be devoted to clinics there. Particular attention will be given to laboratory interpretation and the correlation between laboratory and clinical work. Those who wish to give more time to laboratory technique will be afforded an opportunity of doing so. Those desiring special instruction in X-ray interpretation can arrange to get this experience. The laboratories of physiology and anatomy will be open every day, and the practical application of physiology and regional anatomy may be studied in connection with clinical work. The pathological conference, which will be held four afternoons in each week will give the opportunity of correlating clinical work with pathological findings. All are invited to take part in the discussions, which are always stimulating and instructive. On evenings each week there will be a lecture on some of the outstanding problems of clinical medicine.

THE DEAN.

Medical College of the State of S. C.

Schedules of Lectures and Clinics-

A. M.	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
9:00	Pediatrics	Pediatrics	Opthalmology	Pediatrics	Pediatrics	General Surgical Diagnosis
10:00	Internal Medicine	Internal Medicine	Otolaryngology	Internal Medicine	Internal Medicine	Internal Medicine Neuro Psychiatry
11:00	Laboratory Interpretation	Pathology	Surgical Diagnosis	Dermatology	Neuro Psychiatry	Obstetrics
P. M. 12:00	Pathology	Obstetrics	Gynecological Diagnosis	Obstetrics	Obstetrics	
3:30-5 4-6	Physical Diagnosis	Tuberculosis Clinics Pinehaven Sanatorium*	Physical Diagnosis	Physical Diagnosis	Genito- urinary Diseases	
5-6	Clinico-Pa- thological		Clinico-Pa- thological Conference	Clinico-Pa- thological Conference	Clinico-pa- thological Conference	
8:30	Conference					

*The first clinic will be devoted to the diagnosis of Pulmonary Tuberculos is and the second to the treatment, including heliotheraphy and artificial pneumothorax.

*Subject and speaker to be announced.

The routine surgical clinics will be conducted at the Roper Hospital and all who so desire may avail themselves of them. Special courses in anatomy, animal surgery and other subjects will be arranged for classes of ten or more. Those desiring these courses should make application early so that suitable arrangements can be made. In case a class in animal surgery is desired, a fee of \$10 each will be charged to cover the necessary expenses of the course.

ORIGINAL ARTICLES

*THE USE OF THE ROENTGENOLOGIST AS A CONSULTANT IN SURGICAL LESIONS

> By Herbert H. Schoenfeld, M. D., Washington, D. C.

A Roentgenologist may be defined as an individual skilled in the diagnostic and therapeutic application of the roentgen ray.

The prerequisites for skill in this phase of work demands that the individual be, and primarily consider himself, a physician.

As a physician, the roentgenologist should be considered amenable to the same perquisites, obligations, and ethics as other physicians, in his relation to the patient and to his colleagues. His colleagues, on the other hand should consider him in the same light.

My purpose in this discussion is to recall to your attention a number of the outstanding uses of the X-ray, especially in diagnosis, and as an aid to, or treatment in some surgical lesions.

I shall confine myself to a limited number of points arising in my own experience, and rincipally involving usual cases.

Let us consider traumatic cases. We are all agreed, and even the law, which is principally evolved by laymen, demands the usual practice of X-ray examination in suspected bone injuries. It is not unusual, however, even in fractures involving the long bones, to have an X-ray reported negative. This may readily be understood when we remember the fact that the roentgenologist has not made a clinical examination, nor applied a primary dressing, and, in consequence, centers his examination over an area distant from the site of injury. Were the individual who makes the clinical examination in attendance, at the time of radiography, such an error would be obviated. On the other hand, it is unwise to rely upon clinical examination, particularly in an injury about a joint, as one frequently sees what are merely supposed to be bad sprains, which have a definite so-called fracture-sprain involvement. The X-ray is essential in establishing this diagnosis.

A more frequent reduction of fracture under the fluoroscope, than at present done by most men, will give a higher percentage of satisfactory results. The fluoroscope should be used, even though, for purposes of record and legal protection, we make a permanent photographic record.

A type of injury, which is much more frequent than is usually thought, exists in relation to the vertebrae. A relatively large number of spinal injuries are simply associated with pain in the back, which is ascribed to wrenching and straining of the muscles, and has no concomitant neurological signs involving either the motor, sensory, or sympathetic systems. Particularly in those cases having a history of a fall, in which they land upon their feet, or in a sitting position, or upon the head, and in which there is even the slightest complaint of backache, roentgenologic study of the spine is indicated. A number of these patients will be found to have compressed fractures, of greater or less degree, of one or more vertebrae. Fortunately, from a neurological standpoint, these injuries are more frequently seen involving a lumbar vertebra, and time, with fixation, gives uniformly good results in obviating chronic backache sufferers.

The X-ray in head injuries, however, is not to be relied upon, when reported negative. With the exception of compound or depressed fractures of the cranium, our treatment of these cases is not in the least predicated upon the presence or absence of visible lines of fracture, but rather upon the neuro-physiological factors.

Foreign bodies, particularly in industrial communities, are frequently the cause of grave injuries of themselves, and secondarily by surgery. Even in a housewife—who has not observed a physician hunting for an hour or two for the tip of a pin or needle embedded in a

^{*}Read before the Columbia Medical Society, January 14, 1929.

hand or foot? The removal of foreign bodies, especially those which are radio-opaque, is so simply carried out under the fluoroscope, that there is no longer any excuse for prolonged, painful, mutilating surgery on these patients. Either under local or general anesthetic, in the fluoroscopic room, with the aid of the roent-genologist, such foreign body is readily localized, a small incision made over the elected point, and, by means of a forcep, the material quickly removed, followed by appropriate suture.

I have had a little girl of seven years, who slid from her mother's lap, breaking off a needle from her mother's sewing, a part of which became embedded in the buttock. She was brought immediately to my office. Being certain that I could feel the needle immediately under the skin, and after infiltration with novocain, I cut down upon it. After a twenty minute search, without finding the needle, I took the child to the fluoroscopic room, where we immediately located the needle, and extracted it without difficulty.

I have recently had a colored man, who, while opening a packing case with a hatchet, chipped a piece of the hatchet off. This struck his nose, just above the bridge, and became embedded in the upper eyelid. Even though he was seen within thirty minutes, there was so much oedema of the eyelid, that the foreign body could not be felt. It was a relatively simple matter, under the fluoroscope, to extract this steel by way of the opening on the nose, and through the tract of its progress to the eyelid.

Those of us, who have a relatively large number of children to deal with, are impressed by the abuse of surgery in adenitis, particularly those of tuberculous origin, which, when they liquefy, are frequently incised and drained. Such treatment of tuberculous adenitis, as in other tuberculous abscesses, is reprehensible. It is unfortunate that we are forced to open those abscesses of pyogenic origin, and tuberculous abscesses which have a secondary pyogenic infection, if for no other reason than the cosmetic one. Of course, I will admit that tuberculous adenitis frequently is primary, especially in children, and also there is frequently secondary infection in these glands. The diagnosis of pyogenic infection may be readily

made by aspiration, followed by smear and culture examination. Those cases which are not pyogenic, should be aspirated as dry as possible, and referred to the radiologist for X-ray and actinic therapy. Those cases having been opened, with dirty, discharging sinuses, are also readily cured by prolonged therapy of this type, and seldom by any surgical means. At the Children's Hospital in Washington, we see a large number of adenitides. Even those cases, which have a luetic factor, frequently have a superimposed tuberculous factor, and they do well under radiation, hygienic measures and specific treatment.

A gland of considerable interest to the internist, surgeon and roentgenologist, particularly in adults, is the thyroid. Of course, being principally interested in surgery, even though by the roentgenologist considered, sometimes, as against the patient's welfare, l, as a surgeon, consider the toxic thyroid as a surgical condition. (It would be unwise in any discussion of this scope to enter upon the moot points as between surgery and X-ray in the therapy of toxic thyroids.) Practically thyroids, however, that are to be operated upon, should have preliminary examination by X-ray, to rule out absolutely the presence of substernal or infraclavicular growths. There is an occasional necessity for entering the upper mediastinum by section of the clavicles or sternum, which demands careful preoperative preparation both from the standpoint of anesthetic and surgical instruments; and, needless to say, the surgical novice would be very much embarrassed by a large tumor mass, the care of which he might not be properly prepared

Not only should thyroids have such examination of the neck and upper chest, but also of the whole chest. The X-ray, as you well know, will frequently point out grave cardiac pathology.

In at least one case which I remember distinctly, an X-ray of the chest would have demonstrated a very much enlarged thymus. The patient, a young colored woman, and apparently an ideal operative risk, while under general anesthetic, given by one of our best anesthetists, died suddenly on the table without apparent cause. This woman, at autopsy,

showed a tremendous thymus. Her death was undoubtedly due to status lymphaticus.

I would call your attention further to the thymus, particularly in children. Up to three years ago at the Children's Hospital in Washington, the number of sudden operative and post-operative deaths was a distressing problem. These were frequently in cases operated for simple conditions, such as circumcision, tonsillectomy, and fractures. In the past three years, we have had only one such death in a patient X-rayed pre-operatively, and felt to be within normal limits as to the thymic shadow. This particular case, occurring very recently, showed a thymic shadow, which was taken to be at or about the wide limit. As an arbitrary standard, we consider, on an anteroposterior plate, that a thymic shadow measuring above 33% of the total width of the chest is above normal. All elective surgical procedures done on our open wards are required to have a pre-operative plate made of the chest. We even, as a rule, film the emergencies as well, though, of course, we cannot allow the fact of a possibly enlarged thymus to prevent necessary procedures. It is extremely unfortunate that we cannot require men to give as good attention to their private cases as is given to the charity patients.

The thymus, when found enlarged, is treated by radiation with X-ray. A very small dose is usually sufficient to cause retrogression to within safe limits in ten days. Of all the things brought out in this paper, I would especially emphasize the question of thymus as a factor in surgery, even though the admission must be made that at the present time little of the true physiology is known.

The X-ray and fluoroscope should be frequently used in the diagnosis and treatment of pleural effusions, especially those of the purulent type. It is important, primarily, to know both the upper and lower level presented by the accumulation, so that drainage may be instituted at the necessary point. This fact does not complete the subject. The course of inflation of the lungs with diminution of the cavity may be watched and accurately estimated on subsequent examinations. Not infrequently do we see an empyema patient, who has been afebrile, again begin to run a septic

temperature. In this patient, examined fluoroscopically, we may find a drainage tube, which we know is patent, is not doing its work properly because of such a simple thing as having the tube pushed into the chest too far. Proper placement of the tube, under one's vision will clear up an embarrassing situation.

Another condition, making X-ray examination of the chest important from a surgical standpoint, is the showing up of various types of pulmonary pathology, which might alter the diagnosis of seeming abdominal lesions, and also the types of anesthetic to be used, and even the possible postponement of, or refusal to perform elective surgical procedures. This includes the ruling out of metastatic malignances, pneumonia, tuberculosis, and other frequent pulmonary conditions.

In so far as abdominal lesions are concerned, the laity, as well as the profession, is well aware of the exactness of diagnosis made by X-ray study. In fact, X-ray study of the gastro-intestinal tract has become so popular, that laymen, of their own volition, call upon the roent-genologist for study without previous consultation or direction of the clinician. Unfortunately, the radiologist is indiscreet enough at times to proceed to such examination without complete clinical study, which puts him under the same disadvantage as when the clinician refers a case and does not give the radiologist a clinical history, and his clinical findings.

There is no doubt, in a large percentage of cases, of the exactness of the diagnosis of gall bladder disfunction made by modern technique.

In so far as the tubular portion of the gastro-intestinal tract is concerned, fluoroscopy is equally, if not more, important than the study of plates. During fluoroscopic study, the clinician should be present for the purpose of his own education as well as the corelation of X-ray findings to the clinical picture.

Appendicitis is probably the most common lesion of surgical interest in the gastro-intestinal tract. The diagnosis of chronic inflammatory reaction in this organ, however, is too frequently made. Under the fluoroscope, one may readily determine the localization of tenderness over the caput coli or the appendix itself when pain is localized to that point. We may also, in a large number of cases, deter-

mine the relative position of the appendix in relation to the cecum, and the mobility or fixation of the cecum. In those cases in which no other pathology is demonstrated, such as concomitant gall bladder or gastric diseases, and sometimes calculi of the urinary tract, the surgeon may easily use the muscle splitting incision at the level, localized by fluoroscopic vision, so as not to be embarrassed in the performance of his operation.

I have had the experience on one or two occasions of negative findings on radiologic study of the appendix, and later found it definitely pathological. Occasionally, fluoroscopic examination in the diagnosis of sub-acute or acute appendicitis is indicated, in those cases having grossly atypical findings on physical examination.

I have had one case in which pain and tenderness predominated in the left lower quadrant of the abdomen. In this case, we found, on radiologic examination, that the base of the appendix was in normal position, but the tip was plastered against the sigmoid. In another case, in a man, who had been ill for one week, but who had practically no tenderness on palpation, but only muscle spasm and a small tumor mass; by means of a barium enema, we localized an abscess to the medial side of the cecum. I feel that the importance of my study in this case was the fact that I could come right down upon the abscess directly, through a properly placed incision with as little disturbance as possible of the small bowel, which so unfortunately was surrounding the abscess. It is in those cases in which the small bowel area is involved in infective processes that our mortality is so very high in appendicitis.

The study of the stomach and duodenum with typical filling defects and deformities is pathognomonic in ulcers. However, at this point we must remember the deformities caused by pathology that is not in the tubular tract. I have seen two cases with rather typical ulcer symptoms and typical radiographic defect in the duodenum that were caused by what apparently was a congenital peritoneal fold extending from the fundus of the gall bladder across the duodenum, and blending into the peritoneum of the transverse colon. Both these

cases recovered from symptoms on section of this fold.

I have had a number of interesting tumors within the abdomen in which fluoroscopy has been exceedingly helpful. One of these was a mass in the pelvis of a stout woman which, at operation, was found to be a diverticulosis with perforation and abscess formation. It was a very interesting thing to do a pelvic examination under the fluoroscope, to determine by this means, and a barium enema, that the abscess was connected with the intestinal tract.

Another case was that of a stout colored women of about fifty years with a tumor the size of a small grapefruit in the upper left quadrant of the abdomen. We readily determined that the tumor—a carcinomatous cyst, probably of pancreatic origin—was not associated with intestinal pathology, in spite of the picture of obstruction, which she presented on her first admission to the hospital.

There is no class of cases in which radiology is more helpful than in obstruction. Even before the ingestion of barium, or the use of a barium enema, we can readily see the typical distribution of gas indicating small or large intestinal obstruction. If the obstruction is not complete, so that there is time for more careful study, we can frequently locate the exact point of difficulty, as well as determine whether or not it is of extrinsic or intrinsic origin.

In the past few years, I have studied a number of cases of intussusception, fluoroscopically, with the radiologist. It is very easy by this means, with the barium enema, to establish a diagnosis, which may otherwise be very difficult at times in those cases having a very small, non-palpable mass. In one case, we thought it possible to reduce the intussusception, but, after working some time, found that we were unsuccessful. However, if intussusception may be reduced by enemata, it would seem reasonable that we be assured of the reduction by vision.

The typical pictures of diverticulae, tuberculous disease, malignancy and spasticity are well known, and are of great importance in diagnosis.

There is only one other point that I would mention briefly, and that relates to radiologic examination of the central nervous system. I have had no experience with the use of radioopaque substances, such as lip-iodol, except in the spinal canal, where, after injection of the substance into the cisternum magnum, we get a readily seen localization in block. I have had a relatively large experience in cerebral radiography, following the method of Dandy in the replacement of cerebro-spinal fluid by air in the cerebral ventricles. Time does not permit of a detailed description of its various phases. Suffice it to say, that it is of great diagnostic value in a large number of cases, but the interpretation must be made by the neurologist or neuro-surgeon in association with the roentgenologist.

In closing, allow me to state that it is my impression that physicians are inclined to look upon the X-ray specialist as a mere artisan or technician. I am further impressed by the fact that the average physician, who is not a roentgenologist, is poorly prepared to assume the liability for technical procedures, nor has he sufficient training or judgment to make his opinion in this special field of work reliable. The physician usually does have, however, a better grasp of the clinical factors in a given case, so that by personal consultation and association with the roentgenologist, in the work to be done, the patient would receive greater benefits than are otherwise obtained. The common custom, to a certain extent the fault of the X-ray man, is that of dictating abstract reports, which may be faulty, because of lack of clinical information on his part, that would alter his perspective of the case.

One thing further should be mentioned. I believe that the roentgenologist, as well as the rest of the profession, due to the amount of mathematics and mechanics involved in X-ray work, tends in too great a degree to make his charges on the basis of purely mechanical factors. This is unalterably opposed to the ethics of our profession, which demand, and in the demand of which even the courts uphold us, to charge the patient in accordance with his ability to pay as well as in relation to the services performed. Unfortunately, I have heard many of my colleagues tell the roentgenologist when they had a poor patient, but I have never heard the roentgenologist told of the fact, that he was treating or examining a wealthy patient. I have had patients come into my office and tell me the difference between charges of different laboratories, and attempt to compare the mere number of actual plates made by one or the other. Both the roentgenologists and the clinicians are responsible for the laity's consideration of these charges on the same basis as pounds of potatoes. It should be overcome by education.

Mutual respect and mutual co-operation are necessary.

INTERNAL MEDICINE

J. H. Cannon, M. D., F. A. C. P., Charleston, S. C.

AGRANULOCYTIC ANGINA

Southern Medicine and Surgery, January, 1929

By O. O. Ashworth, M. D., and E. A. Hines, Jr., M. D., St. Elizabeth Hospital, Richmond, Virginia

This excellent article, with the report of three carefully studied cases with a review of the subject to date, emphasized the probability that this condition is more common than one would think. They have summarized the main findings so well in their conclusion that I quote verbatim:

"Comment"

"Since 1924 numerous cases of agranulocytic angina have been reported in the United States and, prior to this time, a dozen cases have been described in Germany. No causative factor has been isolated. Lovett suspects the bacillus pyocyaneus. Morre and Wieder found only Vincent's organisms from throat smears. Skiles thinks the condition may be due to either one of two factors: a specific infection resulting in local necrosis with the formation of a specific toxin for the bone marrow, or a primary affection of the bone marrow resulting in an inhibition of the granulocytic formation, due to lowering of the resistance of the patient. From a review of two cases coming under his own observation and forty-three cases from the literature, George J. Kastlin concludes that the inflammatory sites in agranulocytic angina have wide distribution and, in general, would appear to be due to a secondary infection. Some have suggested a more inclusive nomenclature such a sepis with granulocytic decrease. The main features seem to be ulcerative angina and a great reduction in leucocytes, affecting chiefly the granulocytic series. The onset and course are acute, and the outcome is usually fatal. The characteristic lesions are dirty, ragged, grayish, rapidly spreading ulcers, which may occur on the tonsils, pharynx, gums, tongue, larynx and genitalia.

At autopsy, typical necrotic lesion have been found throughout the gastro-intestinal tract and in the spleen and lymphatic system. The most characteristic lesion is in the bone marrow, which shows an entire absence, or a greatly diminished number of, granulocytes and their procursors, while the lymphoid and red cell elements are slightly if at all reduced. The disease occurs at all ages in both sexes but most commonly in females. The symptoms are usually of sudden onset with throat, neck and joint pain, high fever, chills and malaise, which progress to a severe toxemia and prostration. The onset usually comes in a period of good health, but may follow various chronic conditions. The ulcerative sites show a lack of the usual cellular response of inflammation."

Their three cases answered all the requirements for this diagnosis and the severity of the condition is emphasized by the fact that all three cases died in spite of every thing that could be done.

Note: It is gratifying to note that the junior author is the son of our distinguished Secretary-Editor. Such evidence as this paper speaks well of the calibre of work he is doing, and it is with pardonable pride that we take notice of his efforts and extend justly deserved commendation (Dr. Hines, Jr. is a 1928 graduate of our School).

J. H. C.

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., CHARLESTON, S. C.

NASAL ACCESSORY SINUS INFECTION

By Dr. J. A. Stucky, Eye, Ear, Nose and Throat, March, 1929

It will be difficult in discussing the topic assigned me, to do so, without saying something of the etiology of these infections.

- 1. It must be borne in mind that the nasal accessory sinuses are primarily air chambers, and the moment their function as such is impaired, discomfort and disease result in proportion to the amount of interference of function.
- 2. Impairment of the function of the sinuses results in disease and is not primarily a definite pathology, but the interference of ventilation and drainage by partial or complete occulsion of the openings of the sinuses results in a negative pressure of the retained air and sweating and absorption of the natural moisture, and this retained moisture (or secretion), if allowed to remain, becomes purulent. For these reasons the most important thing to do in any condition resulting in impairment or occlusion of the natural openings is to adapt the treatment in such a way as to restore the function of ventilation or drainage without destruction or removal of tissue and with a minimum amount of trauma and irritation.

In active infections of the nasal accessory sinuses which have become purulent, if the nasal space is not kept free by cleanliness and ventilation, the muco-purulent infection is easily transmitted to the middle ear by improper blowing or cleansing of the nose. In this way many of the acute suppurative conditions and even mastoiditis can be accounted for. It is surprising how few people know how to blow their nose properly, and how careless the average medical man is in failing to teach the patient how to perform safely this important act.

What is the cause for the increasing number of nasal accessory sinus diseases and diseases of the eye, ear, nose and throat?

My own clinical observations convince me that primarily involvement of the nasal accessory sinuses is not air borne, except in rare instances.

In the majority of cases the source of the trouble is in some other part of the body, rather than the nasal accessory sinuses, and the symptoms of irritation and infection in the eye, ear, nose and throat are a local manifestation of a systemic condition, which if met promptly and active and vigorous eliminative and alkaline treatment with a non-irritating, antiseptic hypotonic solution used in the nose to cleanse and maintain ventilation and drainage, the large majority of cases will not become seriously involved by suppuration. If, on the other hand, it is true that nasal accessory sinus infections are due to, primarily lowered bodily resistance, what is the cause of the lowered resistance?

It is being daily demonstrated in the laboratory by able research workers, also by clinicians, especially pediatricians and internists, that "diet is the most important factor in establishing bodily resistance to infections. Well nourished, physically efficient persons are seldom sick except for epidemic disease and then the sickness is of short duration and the disease usually mild."

Epstein (1925) reports a number of cases of severe bleeding following the extraction of teeth. The condition being due to the fact that patients had been living on a faulty diet for several years.

Watson, in inspecting diets, where lunches were served at the school, observed that various kinds of cakes and pies were offered. Inquiring the reason he was told that the children brought small sums of money to purchase lunch, that the cakes and pies were cheap and children preferred them to milk, green vegetables, soup and fruits. In one school, pimento sandwiches (made of white bread) were served by the "dietitian," being garnished in a most

attractive way so that they sold like the proverbial "hot cakes." This kind of ignorance and neglect is being practised in most of our schools and colleges all over the land. Principals and presidents seem so occupied with abstract matters of education they have no time to give to the important matter of science of nutrition, thus defeating in its fullness the primary object of a general education and the making of well rounded citizens.

It is now known that rickets may be induced or prevented by any of three ways provided the experimental conditions were suitably chosen in each case. (1) By changes in amounts and proportions of calcium and phosphorus supplied through the blood. (2) By deficiency or inadequacy of ultra-violet, irradiation received from direct sunlight or vapor lamp. (3) By deficiency or abundance of antirachitic vitamins.

Mellanby (1923) shows that puppies fed, during development of permanent teeth, diets deficient in vitamin A, had abnormal permanent teeth and deformity of jaw bones. When these puppies were given diets containing sufficient vitamin A with no other change in diet, the jaw bones and teeth became well calcified and regularly arranged.

McCarrison shows that subminimal provisions of vitamin factors causes impairment of the assimilative, secretory and protective functions and may be etiologic factors in certain pathologic states appearing to be counterparts of those experimentally induced in animals.

Hoobler (Jour. A. M. A., Aug. 4, 1928) says that next to human and cow's milk, sugar and syrups are common articles of diet for infants. Next to these are cereals, most of which are super-milled so that milk with possible addition of sugar or milled cereal with probably some orange juice and cod liver oil is the usual diet of infants in the United States for at least the first three months, and when these are analyzed for vitamin content A., C., and D., are found, but B. only in limited amounts, in the milk and orange juice. Where then shall we get the necessary amount of vitamin B.?

Daniels and Dean (lowa University) have found that the nasal accessory sinus diseases, as well as enlarged tonsils and adenoids and middle ear and mastoid infection, are due to deficient nutrition, and upon feeding a balanced diet, the sinus and ear trouble are relieved. The same kind of sinus, middle ear and mastoid infection was caused in rats and guinea pigs by deficient diet as occurred in the human, and post mortem examinations show it to be the same type of infection found in the children and adults using deficient diets. Eyermann (Jour. A. M. A., Aug. 4, 1928) reports an interesting number of cases of food allergy causing nasal symptoms, as vasomotor rhinitis, due to foods—dietary—or plants by inhalation.

Prof. Hopkins, quoted by Dupain, 1020, was impressed by conduct of students in a large preparatory school in England. During the winter term the conduct was unsatisfactory, standards of play and work fell below normal, boys became listless, irritable, etc. Throats examined and other hygenic measures instituted, but nothing came of it. Then the diet was looked into, and it was found that they were receiving no uncooked foods, fruits, or greens. When these were added to diet, no further trouble. They had been suffering from incipient scurvy, due to lack of vitamin C. Relieved by changing the diet. My observations and clinical conclusions agree with those quoted.

Increased knowledge brings increased responsibility.

Among the most recent additions and most important have been physiological and biological chemistry. These, in turn, have become incorporated into the science of nutrition, and it is developments in this science that we must diligently follow, for regardless of what branch of medicine we practice, these two conditions, growth and development, must always remain subjects of our concern.

Recently we have learned much about circumstances and conditions under which infection takes place, and we may arrange diet as to determine the kind of infection to which persons are subject. "This has brought us to the parting of the ways where we must determine whether we shall be contert to treat defects and endresults by mechanical methods or whether we shall prevent and treat them in accordance with the newer scientific practitioner." Dietary deficiency to interfere with normal growth and development reacts unfavorable,

often destructively, upon the organs of special sense.

We should take the attitude of tempering enthusiasm with judgment and of waiting for sound and valid demonstration before we become unduly excited over new discoveries, but there is much in the interrelationship between nutrition and growth as it is influenced by diet, much that has been proven and on that firm foundation we should build the health walls that will keep out disease and assist us in curing the disease that is in the body.

ANNUAL CONFERENCE OF THE S UTH CAROLINA SOCIETY FOR MENTAL HYGIENE. MAY 17th, 18th, 1929, CHARLESTON, S. C.

All meetings at the Francis Marion Hotel General Subject:

The Mental Health of the Community. Opening Session:

Friday, May 17, at 8 P. M.

Business meeting of the Society for Mental Hygiene.

General Sessions:

Saturday, May 18, at 11 A. M.

Dr. Sylvia Allen, President of the Society, presiding.

Address of Welcome.

Response:

Dr. E. L. Horger, South Carolina State Hospital.

Mental Hygiene, a Public Health Measure.

Dr. George K. Pratt, Assistant Medical Director, National Committee for Mental Hygiene.

Mental Hygiene in the Public Schools.

Mr. George C. Rogers, Principal of Courtney School, Charleston, S. C.

Mental Hygiene in the Practice of Medicine. Dr. Heyward Gibbes, Columbia, S. C.

At 1 P. M. Luncheon at Francis Marion Hotel.

(\$1.25 per plate).

Statement of the work of the society.

At 3:30 P. M.

Session sponsored by the Social Worker's Club. Mr. George E. Grimball, presiding. Cooperative Case Work.

Dr. George S. Stevenson, Director Division on Community Clinics, National Committee for Mental Hygiene.

Discussion of Dr. Stevenson's paper by:

Miss Ethel Sharp, psychiatric Social worker for South Carolina State Hospital.

Miss Agnes Smart, psychiatric Social worker for the Mental Hygiene Clinic of Charleston.

The Defendant, the Court and the Clinic. (Speaker undetermined).

At 8 P. M.

Session sponsored by the Parent-Teacher Association of Charleston, S. C.

Dr. Robert Wilson, Jr., presiding.

The Health of the normal child.

Dr. George K. Pratt.

The Child Guidance Clinic.

Dr. George S. Stevenson.

SOCIETY REPORTS

OCONEE COUNTY MEDICAL SOCIETY

The Oconee Courty Medical Society met in the attractive rooms of the County Health Department at Walhalla, 3:30 P. M., March 22. Dr. T. G. Hall, President, was in the chair and a large number of the members answered to roll call. Routine business was dispensed with and the time given over entirely to the distinguished guests from Greenville and Clemson College.

Dr. R. C. Bruce, of Greenville, Councilor of the Fourth District, was present in his official capacity and warmly congratulated the Society on the excellent programs and splendid average attendance each year and the fact that the Society throughout its entire existence had been able to maintain the unusual record of having every eligible physician on the roll of the Society. Dr. Bruce presented an admirable paper on Lipoid Nephrosis.

Dr. R. M. Pollitzer, of Greenville, brought a splendid practical message on the subject of Serum Sickness.

Dr. Lee Milford, Surgeon at Clemson College, presented slides showing the technique and general procedures of the newer methods of making physical examinations of the cadets at Clemson. It will be recalled that the President of the State Medical Association made favorable mention of this work before the House of Delegates at the Columbia meeting.

Many members of the Society joined in the discussion of these addresses. It is worthy of note that although the weather conditions were very unfavorable the interest in attendance dis-

closed the usual loyalty of the membership in making the meeting one of the most successful of the year.

E. A. Hines, M. D., Secretary.

MEETING YORK COUNTY MEDICAL SO-CIETY, ROCK HILL, S. C., MARCH 13, 1929.

The meeting was called to order by the President, Dr. Norma P. Dunning, with the following doctors present; Drs. W. R. Blackmon, J. L. Bundy, Norma P. Dunning, J. R. Des Portes, J. B. Elliott, E. E. Herlong, J. R. Miller, W. K. McGill, R. E. Sumner, W. F. Strait, W. C. Twitty, W. E. Simpson, D. E. Walker, W. B. Ward, W. G. Stevens. Dr. Gaston of Chester County was a visitor for the occasion.

The President appointed the following Program Committee; Dr. W. C. Whitesides, Chairman, Dr. Norma P. Dunning, Dr. E. E. Herlong and Dr. W. K. McGill.

The time of the meetings was changed from 11 A. M. to 8 P. M.

Dr. J. R. Des Portes brought up the matter of the reorganization of the Fifth District Medical Society at Chester on March 26, 1929, urging all who could to be present and lend their support to such a reorganization.

Dr. E. E. Herlong presented an interesting paper on "Some of the Most Common Kidney Infections." He first showed how the conditions interested both internists and specialists the nose and throat group possibly least while the general surgeon will likely be troubled most with the vague signs that arise from gall bladders, appendics and salphingitis. Just the other day a case was referred into hospital diagnosed appendicitis which upon urological examination proved to be pyelitis of pregnancy of right kidney only, explained by anatomical position hence worse drainage and a more liberal lymphatic drainage Another instance I recall where a telephone call came to have operating room set up for an appendictomy which upon X-Ray examination showed stone in Right ureter. It was cystoscoped, the stone passed and patient cured of appendicitis without an operation. Here urine was negative because tube was totally blocked.

Dr. Whitesides in discussing the possibility of an error in diagnosis said that he had to confess to such a mistake as Dr. Herlong had just cited.

Dr. Dunning discussed a certain type of young college girls that she had to deal with who had lower quadrant, colicky pains in which the question of kidney infections had to be decided. She has found a great number of these to be cleared up by simply forcing fluids.

Dr. Ward discussed a case that he first diag-

nosed appendicitis which suddenly showed signs of a pelvic abscess, a four plus pus in urine. Then he thought he had possibly a pyelitis but there was a mass in region of appendix to explain. Upon operating later there was an abscess that adhered to urinary bladder. The pus must have gotten into the urinary track either through lymphatics or by direct invasion for it cleared up after getting out abscess.

Dr. Bundy discussed the early and late signs, the pathology, the distribution of pellagra, the past and present attributed cause of the disease together with the best recognized treatments.

Dr. Whitesides stated that the disease was among those who were least able to pay for the treatment both of drugs and the high protein diet. That he had seen more pellagrins last season than any previous season in his practice.

Dr. D. E. Walker said he had found the Brewer's yeast helpful in treating pellagra also he likes Fowler's solution.

Dr. Frank Strait stated that many of his pellagrins had constipation rather than diarrhea. This class he found to respond to Brewer's yeast well.

Dr. Ward discussed the type of patients without the manifest signs of pellagra that are sometimes operated upon for kidney infections or appendicitis through mistakes and suddenly flares up with all signs of pellagra.

Dr. Simpson reminded us that Dr. McConell, of our County, was the first one who recognized and published a case of pellagra in U. S. A. Dr. Simpson drew a parallism between open sewage and pellagra, that where one was the other was also more prevalent.

Dr. McGill discussed cases treated with three whole doses of their serum obtained from a (fly blister) cautheridis and injected into their veins. Patients thus treated for past two seasons showed no recurrence. These patients were also given twenty drops dilute hydrochloric acid with meals. He stated that in the same length of time pellagrins treated with the usual drugs and diet had had recurrences.

W. K. McGill, M. D., Secretary-Treasurer.

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SOCIE-TY, HELD AT THE IMPERIAL HOTEL, MONDAY, MARCH 4, 1928.

The meeting was called to order at 8:15 P. M., by the President, Dr. J. G. Murray, with about forty members present. The minutes of the last meeting were read and approved with Dr. Evatt's correction.

Reports of clinical cases were then called for. Dr. Davis reported an interesting case of five diverticula occurring in the urinary bladder of one of his female patients. He also reported two

cases of prostatic abscess treated with the Stearn's resectoscope in which haemorrhage was controlled with an instrument of his own invention.

Dr. Evatt reported briefly on his series of patients whom he had treated for various infections with the intramuscular injection of dilute hydrochloric acid. Dr. Evatt's report was favorable although he mentioned that reactions are likely to occur. Dr. Davis also reported favorable results with this therapy.

There being no further clinical cases, the President then called upon Dr. Geo. T. Tyler, who gave a very able discussion on spinal injuries. He first stated that the subject of spinal injuries is one of increasing interest owing to the high death rates and disappointing results incident thereto. Spinal injuries are very commonly met with in war surgery as one would presume, and the case history of a divided cord was given with recovery following suture, this patient being one of Cadwalader's series. Dr. Tyler then stated that the troublesome effects of spinal injury were due to the compression myelitis suggested by Dowman and Smith. On account of the possibility of damage to the cord through pressure which is very likely to follow. Dr. Tyler stated that early laminectomy should be resorted to in order that this might be avoided. Allen found the best results to come from the exposure of the dura at operation, then splitting the cord to expose the canal. He reported earlier recovery following the procedure. The purpose of this operation being, of course, to combat swelling and thus prevent spinal cord damage from pressure.

Dr. Tyler then presented one of his patients whom he had treated following an injury to the lumbar cord as the result of an automobile accident. Discussed by Dr. J. Warren White; closed by Dr. Tyler.

The President then called upon Dr. DeWitt Kluttz, who discussed in a very thorough manner the subject of Lipoid Nephrosis. Dr. Kluttz exhibited a patient and presented his subject in this manner. This patient gave a 4-plus albuminuria, and practically no phenol-sulphonephthalein output. Fifty per cent of this albuminuria was due to the presence of globulin. Dr. Klutz then stated that there was seldom any change in the non-protein nitrogen of the blood; creatinin content is normal. There is a slight increase in the sodium chloride content of the blood, but no increase in blood pressure. Oedema comes late in the course of the disease and with this oedema comes a high protein content in the tissues and a low protein content in the blood. The hydrogen ion concentration of the blood is irrelevant. In Dr. Kluttz' patient albuminuria was first noted in 1924. Some improvement in the patient's subjective symptoms have been noted, and he feels better following exercise. Mosenthal and concentration tests are now normal. Bilateral uneteral catheterizations reveal the presence of epithelial cells loaded with fatty deposits. There is also the presence of free fat in this urine. As to the cause of Lipoid Nephrosis, Dr. Kluttz stated that he thought it may be due to the faulty metabolism of protein; low metabolism may be a cause in that thyroid extract administration is efficacious. Discussed by Drs. Bruce, Davis, Hugh Smith, W. S. Fewell, Tyler, Murray. Closed by Dr. Kluttz.

Under the heading of Reports of Committees, Dr. Bruce, who had been appointed as Chairman of a Committee to interview City Council regarding the decrease of physicians' license fees reported that the members of the Council desired the Medical Society to submit to that body just what the Society thought these fees should be. Dr. Wilkinson moved that this Committee be continued; seconded by Dr. Evatt and carried. This matter was discussed by Drs. Davis, Bruce and Brown.

Dr. Davis brought up a matter regarding the proposed increase in tariff on imported surgical instruments, and after some discussion moved that the Secretary write the Chairman of the Ways and Means Committee and to the Hon. J. J. McSwain, Congressman from South Carolina in protest of the passage of this proposed measure; seconded and carried.

It was then moved, seconded and carried that the Secretary write a letter of sympathy to Dr. Humphrey D. Wolfe following the death of his father; also that a letter of condolence be written to Dr. Isaac H. Grimball on account of an illness which had required a major operation.

There being no further business, the meeting adjourned.

Irving S. Barksdale, M. D., Secretary.

MEETING OF THE FIFTH DISTRICT MEDI-CAL SOCIETY, CHESTER, S. C., MARCH 26, 1929, ELEVEN OCLOCK A. M., SHRINE CLUB.

Invocation—By Reverend J. O. Mann, Pastor Purity Presbyterian Church, Chester, S. C.

Address of Welcome—By Dr. R. E. Abell, President Chester County Medical Society, Chester, S. C.

Scientific Program

Address by Dr. R. E. Hughes, Laurens, S. C., President South Carolina Medical Association.

A Plea for a More Thorough Systematic Examination of All Patients—By Dr. S. E. Harmon, Chairman of the Council, South Carolina Medical Association, Columbia, S. C.

Some Remarks on Malta Fever in South Carolina—By Dr. E. A. Hines, Secretary-Editor South Carolina Medical Association, Seneca, S. C.

Influenza—Observations of Over 600 Cases—By Dr. Norma P. Dunning, Resident Physician Winthrop College, Rock Hill, S. C.

Discussion opened by Drs. W. E. Simpson, Rock Hill, S. C., and W. C. Whitesides, York, S. C.

Some Cases of Intestinal Obstruction—By Dr. W. B. Ward, Chief Surgeon Fennel Infirmary, Rock Hill, S. C.

Discussion opened by Drs. Roy E. Sumner, Rock Hill, S. C., and R. E. Abell, Chester, S. C.

THE UROLOGICAL ASSOCIATION OF SOUTH CAROLINA, GREENVILLE, S. C., MARCH 26, 1929.

A clinic demonstrating "Resection of the Prostate Gland" by Dr. T. M. Davis.

Programme

Meeting called to order promptly at 6:30 P. M.

BANQUET

"Gunshot Wounds of the Urinary Tract"—Dr. M. H. Wyman, Columbia, S. C.

"Sterility in the Male"—By our invited guest— Dr. Francis R. Hagner, Washington, D. C.

"Gonorrhoeal Septicemia and Arthritis"—Dr. E. E. Herlong, Rock Hill, S. C.

Report of Clinical Cases.

J. J. Ravenel, M. D., President,
Charleston, S. C.
Hugh E. Wyman, M. D.,
Secretary-Treasurer.
Columbia, S. C.

DR. JOSEPH GOLDBERGER

WHEREAS, the Spartanburg County Medical Society learns of the recent death of Dr. Joseph Goldberger, of the United States Public Health Service, with a realization of the loss sustained in his passing; and

WHEREAS, members of this society were privileged to be associated with him in the study of Pellagra, conducted by him as the representative of the United States Public Health Service in this section of the South; therefore, be it

RESOLVED, That we record our recognition of the eminent service Dr. Goldberger rendered the cause of scientific medicine through his able research, the announcement of his conclusions and the practice of his methods to the relief of human suffering; and be it further

RESOLVED, That the United States Public Health Service be apprised, through these Resolutions, of the high esteem in which he was held by the members of this Society, and of their recognition of his fine example and distinguished service to the medical profession.

Geo. E. Thompson, M. D., James L. Jeffries, M. D., J. J. Lindsay, M. D., Committee.

DR. WILLIAM A. WALLACE

RESOLVED, That we, the Spartanburg County Medical Society, extend to his family our heartfelt sympathies in their sorrow and great bereavement.

That we share with them the burden of grief and sorrow entailed by his passing in the very prime of life and proficiency.

That we, as well as his family and patients, have profited by his pleasing personality and companionship and from his efforts so earnestly and practically applied in behalf of those whom he served.

That, as a physician, he was painstaking, accurate and efficient and his work among us has been appreciated as creditable and a distinct gain in the practice of medicine.

Geo. E. Thompson, M. D., James L. Jeffries, M. D., J. J. Lindsay, M. D.,

Committee.

SPARTANBURG COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Spartanburg County Medical Society was held Friday night, February 22nd at 8 P. M., at the Spartanburg General Hospital.

The minutes of the last meeting were read and approved.

Dr. J. Warren White of the Shrine Hospital at Greenville, read a very instructive paper entitled, "Orthopedic Objectives".

Dr. Long, of the State Hospital, another guest of the society, read a paper entitled, "The Mental Aspects of Pellagra".

Dr. Kleinschmidt of the National Tuberculosis Association was also present as a guest of the society. Dr. Kleinschmidt stated that the association believed that the campaign conducted last year to educate the public concerning the early symptoms of tuberculosis had done much good and that another campaign was to be conducted this Spring.

Dr. Kleinschmidt then made the following remarks: "In children the tuberculosis infection first produces a nodule in the parenchyma of the lung and then travels via the lymphatics to the glands at the hilus region of the lung. Tuberculosis in adults is nearly always due to reinfection. Heliotherapy is very beneficial in bone and joint tuberculosis and is being tried out in pulmonary tuberculosis, but one has to be cautious

in the use of heliotherapy in this type of tuberculosis as a dormant pulmonary tuberculosis may be made active by too much ultraviolet or sunlight, and the sale of ultraviolet lights to patients is not safe. The new glass which is still being advertised is also of very little value, because a patient may walk out doors for a few minutes and receive as much ultraviolet light as he does sitting for hours near a window with this new glass.

"Intimate contact is usually necessary and a history of contact is very important. Every member of the family should be examined. Tuberculosis is nine times more common in children where there is an open case of tuberculosis in the home. Five per cent of all school children are infected with tuberculosis. The preventorium has been found of value in combating tuberculosis in children. The most important function of the sanitorium is to prevent the spread of tuberculosis. The patient learns among other things not to spit on the floor and not to kiss babies. Since the war the death rate from tuberculosis has declined in all age groups except in young adults between 15 and 25. Only 16% of patients with tuberculosis are in the early stages of the disease when first examined. A new institution has been started to teach arrested cases new trades which requires less physical effort. Calmette's vaccine (a non-virulent strain of tubercle bacilli) has not yet been proved of definite value, because Calmette not only vaccinates, but also takes the patient away from others infected with tuberculosis."

Dr. Bennett moved that the Secretary write the members of the legislature and the Board of Trustees of the General Hospital calling attention to the immediate need of a colored hospital as the conditions at the present colored hospitals were intolerable.

Dr. Bennett also moved that Section 2 of Chapter V of the By-Laws be enforced and that all members be notified.

There being no further business the Society adjourned.

S. O. Black, President, W. M. Sheridan, Secretary.

APPRECIATION OF SIMS

March 4, 1929.

Dr. E. A. Hines, Seneca, S. C.

Dear Dr. Hines:

Please forward my small contribution to the Sims Memorial. It has been my intention to contribute something to this all the time, but it has been overlooked. I trust the gift will be accepted more in spirit than it can amount to in material worth.

I have read, with unusual interest, the life and letters of J. Marion Simms, as well as the comments of some Biographers.

With personal good wishes to you, I am

Sincerely yours,

OLM/b

O. L. Miller, M. D.

DEATH OF DR. B. F. GOODLETT

In the death of Dr. B. F. Goodlett of Travelers Rest the Greenville County Medical Society and the South Carolina Medical Association lose a member whose service to suffering humanity had the extra-ordinary span of fifty years. Dr. Goodlett was one of the oldest surviving graduates of the Medical College of the State of South Carolina. He was not only a good doctor but a citizen highly esteemed in the community in which he lived for his interest in the worthwhile things outside of medicine.



LET US COLLECT YOUR SLOW ACCOUNTS FOR YOU.

COMMISSIONS AS LOW AS 25%.

NO OTHER CHARGES.

Endorsed by American Medical Association and State Societies. References: Bradstreets; Chamber of Commerce; Commerce Trust Co, or publishers of this journal. Satisfied clients everywhere. SEND FOR LIST BLANKS

Physicians & Surgeons Adjusting Association
RAILWAY EXCHANGE BUILDING. KANSAS CITY, MO.

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, MARCH 12TH, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors: Allen, Beach, Bowers, Burn, Byrnes, Cain, Chamberlain, Deas, Jackson, F. B. Johnson, Kollock, McCrady, Martin, Mitchell, Mood, O'Driscoll, F. R. Price, Priouleau, W. P. Rhett, Richards, Rutledge, J. E. Smith, W. A. Smith, Speissegger, Taft, Townsend, Waring, R. Wilson. (28).

Guests: Dr. Arthur Gerhardt, of Philadelphia, Dr. R. H. Lanning, U. S. N. internes, and senior medical students.

The minutes of the meeting of February 26th were read and confirmed.

The Secretary read a letter from Dr. J. H. Oakley of the United States Public Health Service, thanking the Society for its action in the matter of the bill before Congress to provide a pension for Mary H. Goldberger. The Secretary also read letters from Senator Cole L. Blease and Senator E. D. Smith, in which they stated that they were in favor of the bill to provide a pension for Mrs. Goldberger, and that the bill had passed.

The Secretary read a letter from one of the committee of the League of Hard of Hearing, in which the Society was thanked for its action in appointing a committee to assist the ladies of this League and pointed out that as the members of this Society were "all very busy men it may be more desirable to you and most acceptable to the League if your aid comes in the form of a money donation."

The Secretary read a letter from the Clerk of Council, Mr. Joseph C. Barbot, calling attention to the revision made in the city ordinance establishing a Board of Health and a Board of Welfare. This letter pointed out that the ordinance for the establishment of the Board of Health provided that the Medical Society of South Carolina shall recommend a member for appointment on this Board, and desired to know if Dr. W. M. Rhett, nominated by this Society for the old Board, was agreeable for nomination to the new Board. It was moved by Dr. Mood that this Society nominate Dr. Wythe M. Rhett for appointment to membership on the Board of Health. This was seconded and carried.

Under Miscellaneous Business, Dr. Robert Wilson stated that the Society for the Preservation of Spirituals had been invited to participate in the Musical Festival in Boston, and that they would give an entertainment soon for the purpose of raising funds to defray the expenses of this trip. He said that he had been requested by the Spiritual Society to make this announcement.

The Scientific Meeting was called at 9:00 P. M. Under Case Reports, Dr. W. A. Smith reported a case of purulent infection of the right antrum, causing facial neuritis on the left. Drainage of this sinus cured the nuritis.

Dr. Henry Deas reported a case of caesarian section performed on a woman who had been crippled for life and never able to walk.

Dr. J. E. Smith reported a case of a small metallic foreign body which had penetrated the eye without showing external evidence. The failure of the magnet to remove this body necessitated enucleation of the eye.

Dr. C. W. Kollock reported a pistol wound of the eye which had resulted in a perfect iridectonemy. A traumatic cataract subsequently developed.

Dr. R. B. Rhett reported two cases of retinitis. The paper of the evening was read by Dr. J. F. Townsend on "Eye Grounds". Dr. Townsend showed lantern slides illustrating the various lesions of the eye grounds occurring in different types of cardio-vascular renal disease. This was discussed by Dr. C. W. Kollock, who also used lantern slides to illustrate the points he wished to emphasize. The paper was further discussed by Doctors F. B. Johnson, R. Wilson, Rutledge, Cannon and Dr. F. R. Price, Dr. Townsend closing.

There being no further business, the meeting adjourned.

W. Atmar Smith, M. D., Secretary.

University of Maryland School of Medicine and

College of Physicians and Surgeons

Requirements for Admission—Two years of college work, including English, Chemistry, Biology and Physics, in addition to an approved four year high school eourse.

Facilities for Teaching-Abundant laboratory space and equipment. Two large general hospitals absolutely controlled by the faculty and several hospitals devoted to specialties, in which clinical teaching is done.

For catalog apply to J. M. H. Rowland, M. D., Dean, N. E. Corner Lombard

and Greene Sts., Baltimore, Md.

BOOK REVIEWS

DOCTOR'S LETTERS TO EXPECTANT PARENTS-Frank Howard Richardson, M. D., F. A. C. P. Price, \$1.75. Pp. 118. New York: Children; The Parents Magazine, and W. W. Norton & Company, Inc., 1929. This unique little book contains eighteen letters which deal with a variety of important subjects. father as well as the mother is addressed, for he is shown that he too has responsibilities and duties. While necessarily the physical side of the mother's life during pregnancy is fully discussed, yet much attention is directed to her mental and emotional needs. Quite a bit of wholesome philosophy will be found in some of the letters. Dr. Richardson in his inimitable way has with frankness charmingly outlined what parents should know before the advent of the baby. It differs from numerous popular books on ante-natal care in that while medically correct, yet it neither goes into emotional gushes nor overwhelms one with undue pessimism. Essentially it is a well written, honest exposition by one who has knowledge, The presswork is excellent.

R. M. Pollitzer, M. D., Greenville, S. C.

RECENT ADVANCES IN CHEMISTRY, RELATION TO MEDICAL PRACTICE—By W. McKim Marriott, B. S., M. D. Price, \$2.50. Pp. 141. The C. V. Mosby Company-St. Louis, 1928. The day of looking at the tongue of a patient and then prescribing for him, has almost entirely gone. Furthermore while formerly medicine was an edifice built on a fairly solid foundation of anatomy, physiology and pathology; today we are forced to recognize that without the addition of physiological chemistry there is a marked weakness. Few men who practice unless newly hatched from a medical school or they have had unusual scientific training, possess but a vague idea of the relation of chemistry to medicine. To the internist and the general practitioner, as well as to the pediatrician much of the material in this little book will be very helpful. The nature of acidosis, and alkalosis, and what factors produce them are clearly elucidated. The chapter on the chemistry of the blood is well worth There is nothing super-scientific about the book. It is really practical, and contains much that will be rather new to most INJECTION TREATMENT OF INTERNAL readers.

R. M. Pollitzer, M. D., Greenville, S. C.

ANGINA PECTORIS-By Harlow Brooks, M. D., Emeritus Professor of Clinical Medicine, New York University, Visiting Physician, City Hospital; Consulting Physician, Fifth Avenue, French, Polyclinic, Montefiore, Norwegian and Beth Israel Hospitals, New York City; Colonel, Medical Reserve, U. S. A., etc. Harper and Brothers, Publishers, New York and London, MCMXXIX. The author of this volume writes from personal experience in New York's largest hospitals. The book is not a review of the literature already published but is a thorough study of the subject from the consulting physician's viewpoint. Dr. Brooks lays particular stress on the treatments which should be given in these cases and under certain conditions. These new publications in the Harper Medical Monographs are attractively priced, compact in form and authoritative, designed to give the general practitioner a complete and up-to-date library on individual diseases, methods of treatment, etc. The advisory editorial board for this series includes a group of eminent authorities in the medical profession. This series should be of great value to physicians who now find it difficult to keep abreast of the latest developments because of the size and complexity of the literature, and the expensiveness and bulk of the average medical book.

SPINAL ANESTHESIA-Subarachnoid Radicular Conduction Block-PRINCIPLES AND TCHNIQUE-By Charles H. Evans, M. D., Clinical Assistant, N. Y., Post Graduate Medical School and Hospital. Lying-In-Hospital of the City of N. Y.; Assistant Surgeon, N. J. Orthopedic Hospital, Orange. Introduction by W. Wayne Babcock, M. D., F. A. C. S. Foreword by Charles Gordon Heyd, M. D., F. A. C. S. 41 Illustrations, 3 in color. One Folding Colored Plate. Paul B. Hoeber, Inc., New York, MCMXXIX. One of the outstanding achievements of modern surgery is that of concentrated research in the domain of anesthetics. American surgeons have in recent years given much closer attention to various forms of local anesthesia. A fascinating advance is that of spinal anesthesia. The book under discussion an admirable contribution clear cut with splendid illustrations and yet sufficiently comprehensive for all practical purposes.

HEMORRHOIDS-By Marion C. Pruitt, M. D., L. R. C. P., S. (Ed.) F. R. C. S., (Ed.) F. A. C. S. Associate in Surgery, Medical Department, Emory University, Georgia Baptist Hospital and Grady Hospital; Protologist, Davis Fischer Sanitarium and Anti-Tuberculosis Association; Formerly Resident Surgeon, Westminster Hospital, London, England; Lieutenant, Temporary and Honorary Commission, R. A. M. C.; Major, U. S. M. C. Illustrated. St. Louis, The C. B. Mosby Company, 1929. We are keenly interested in a growing tendency toward the publication of medical books by Southern men. This little manual emphasizes an almost universal malady with one of the simpler methods of treatment outlined.

THE TECHNIQUE OF LOCAL ANESTHESIA—By Arthur E. Hertzler, A. M., M. D., PhD., LL.D., F. A. C. C. Professor of Surgery in the University of Kansas; Surgeon to the Halstead Hospital, Halstead, Kansas; To St. Lukes Hospital and St. Mary's Hospital, Kansas City, Missouri; And to the Providence Hospital, Kansas City, Kansas. Fourth Edition. With 146 Illustrations. St. Louis, The C. V. Mosby Company, 1929. This volume covers a wide range of surgical practice and gives minute instructions on the whole field of local anesthesia.

IMPERATIVE TRAUMATIC SURGERY-With Special Reference to AFTER CARE AND PROGNOSIS-By C. R. G. Forrester, M. D., F. A. C. S. Consultant, Teaching Staff, Illinois Post Graduate School, Laboratory of Surgical Technique, Chicago, Consulting Staff, Chicago General, and Rogers Park Hospitals, Attending Staff, West Side, Lutheran Memorial, and West Suburban Hospitals, Chicago. Five Hundred and Ninety Eight Illustrations. Paul B. Hoeber, Inc., New York, MCMXXIX. This is perhaps the most exhaustive treatise in a single volume monographed hitherto published in this country. The author has had twenty-six years' experience to draw upon and gives the reader the benefit of definite procedures he has found to be best.

THE SURGICAL CLINICS OF NORTH AMERICA (Mayo Clinic Number)—(Issued serially, one number every other month.) Volume 9, No. 1. (Mayo Clinic Number—February, 1929) 247 pages with 141 illustrations. Per clinic year (February, 1929 to December, 1929). Paper, \$12.00; Cloth, \$16.00. Philadelphia and London. W. B. Saunders Co.

THE INFANT AND YOUNG CHILD (Second Edition, Revised)—Its care and feeding from birth until school age. A manual for Mothers. By John Lovett Morse, M. D., Edwin T. Wyman, M. D., and Lewis Webb Hill, M. D., of Harvard Medical School and Children's Hospital, Bos-

ton, Mass. 12mo. of 299 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$2.00 net.

MEDICAL CLINICS OF NORTH AMERICA (Philadelphia number—January, 1929). (Issued serially, one number every other month.) Volume 12, Number 4. (Philadelphia Number, January, 1929). Octavo of 297 pages with 30 illustrations. Per Clinic year, July, 1928 to May, 1929. Paper, \$12.00; Cloth, \$16.00 Net. Philadelphia and London: •W. B. Saunders Company, 1929.



SITUATIONS WANTED

WANTED: Salaried Appointments for Class A Physician in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Azuoc's National Physicians' Exchauge, 30 North Michigan. Chicago. Established 1896. Member The Chicago Association of Commerce.

The Atlanta Neurological Hospital, Inc. at Brook Haven Manor 4070 Peachtree Road ATLANTA, GA. DEPARTMENTS Organic Neurology Psychiatry Child Psychology Neurosurgical Examinations DIAGNOSIS TREATMENT A complete case history must be furnished before a patient is admitted. NEWDIGATE M. OWENSBY, M. D. DIRECTOR 1210 Medical Arts Building, Atlanta

The Journal

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A HINES, M. D., F. A C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston. S. C

PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. C OBSTETRICS AND GYNECOLOGY

R. E. SEIBELS, M. D., Columbia, S. C. UROLOGY

W. B. LYLES, M. D., Spartanburg, S. C. ROENTGENOLOGY

T. A. PITTS, M. D., Columbia S. C.

PATHOLOGY AND BACTERIOLOGY H. H. PLOWDEN, M. D., Charleston, S. C.

SURGERY

- C. B. EPPS, M. D., Sumter, S. C. EYE, EAR, NOSE AND THROAT
- J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY
- J. RICHARD ALLISON, M. D., Columbia, S. C. GASTRO-ENTEROLOGY AND PROCTOLOGY
- W. T. BROCKMAN, M. D., Greer, S. C.
- NERVOUS AND MENTAL DISEASES
- E. L. HORGER, M. D., State Hospital, Columbia, S. C.

MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

PRESIDENT C. R. MAY

An extended writeup of Dr. C. R. May, of Bennettsville, will appear in a later issue but at this time we wish to call attention to the well deserved honor accorded to one of the loval and hard working members of the State Medical Association whose election has been received with pleasure throughout the State. Dr. May served a long apprenticeship on the Council and in many other ways has shown his loyalty to the South Carolina Medical Association. Dr. May has a very pleasing personality and is popular not only in his home community but in a much wider circle. He will make a worthy leader and head of the medical profession for the coming year. Dr. May will be able to personally visit a number of the Societies during his term of office and thus by close contact give to them the benefit of his long experience and successful leadership in his own section of the State.

THE UNVEILED SIMS MEMORIAL

One of the most inspiring exercises ever held by the South Carolina Medical Association was that of the unveiling of the completed Sims Memorial on the State House grounds, Columbia, May 10. The joint participation under the leadership of the Woman's Auxiliary to the State Medical Association and the State of South Carolina assured a wisely carried out program. The memorial is a masterpiece, the work of artists of unquestioned ability. It will stand for all time as a tribute to one of South Carolina's most lauded sons. The good judgment of the committees having charge of the details of the building of this Memorial deserves hearty commendation. The financial consideration was about six thousand dollars. The completed Memorial has been provided, therefore, for a reasonable sum and the ideas of those most active in designing the same carried out to full fruition. The plans of the

Memorial Committee calls for the publication in phamphlet form of the history of the movement to erect the Memorial including all of the details with a financial statement, the names of the donors, the names of the committees, proper photographs of the Memorial, etc. The Journal, therefore, will not publish in full all of the data as it can be much better done by the special committee in charge. The following address was delivered by President R. E. Hughes at the time of the unveiling:

"The South Carolina Medical Society has cause to be the proudest organization of its kind in the world today in accepting this handsome Memorial and thus paying tribute to the Earth's greatest Physician and distinguished Carolinian.

"One whom present and future generations of physicians and surgeons will ever be markedly indebted and one to whom all womankind should be grateful.

"If you will pardon the personal reference and the pride that goes with it, I am very happy that accident or very kind fate may be the charity of my colleagues, gives me the opportunity of accepting this gift—an idea conceived by two late eminent Carolina doctors, S. C. Baker and H. M. Stucky, of Sumter, personal friends, and brought to a realization by the untiring work of the Woman's Auxiliary of the Medical Society, headed by Mrs. H. M. Stuckey's persistent efforts and such a marked and signal service, that in her report to the Charleston meeting, and her plea that the work was finished, she was not only thanked by a unanimous standing vote, but retained to hold this great work for anything further necessary.

"Therefore the work of friends, I in turn bequeath it to the State of South Carolina, whose Executive head is also a personal friend, in the hands of his Excellency, Gov. Jno. G. Richards. We feel the best memories will be cherished, because worth appreciates worth. So reverently, affectionately and sincerely, God bless Mrs. Stucky, our State and our Government."

COMMENTS ON THE CHARLESTON MEETING

The eighty first annual session of the State Medical Association, according to reports received from various sections of the State considering the varied interests involved, was a good meeting. The social contacts were gloriously successful and enjoyable.

The clinics were well attended and certainly won admiration from many of the best men in the State.

The Scientific Program covered a wide range of subjects but it must be admitted that on the last afternoon the attendance was small. Perhaps there is no way to assure a very large attendance in the closing hours. Many plans have been resorted to without complete success as yet. Nevertheless, there are always a faithful few who remain until the gavel falls. These must be interested and find it worthwhile to resist the temptation to leave when the larger crowd goes.

It is certain that when the Association meets in Charleston the opportunity for the renewal of old friendships, the visitation of the Medical School and other institutions from which many of the physicians of the State graduated cannot be duplicated elsewhere. This, is a very important factor in keeping the State Medical Association alive to the historic background of its organization in 1848.

Much was accomplished at the Charleston meeting this time. The House of Delegates had a long and somewhat tiresome session but action was taken looking toward a much more efficient organization and greater service on the part of the Association to the State. For instance, the By-Laws were amended so that the standing committees of the House will be much simplified and the time of hearing these reports in the future should be greatly shortened. Also, the proposition by the Committee on Constitution and By-Laws to be voted on next year that we have a Speaker of the House to be elected annually and a President Elect instead of three Vice-Presidents if adopted should add tremendously to the effective working of the Executive machinery of the State Medical Association.

One of the important subjects brought to

the attention of the profession was that of the iodine content of the food products of the State. It was entirely fitting that such a problem with its vast possibilities should be brought squarely before the medical profession for it will depend for its greatest success upon the approval of medical men.

The invasion of the State by Malta Fever brought forth interesting discussions and thus this new disease will be investigated from the mountains to the sea in the near future.

The final report of the Woman's Auxiliary on the completion of the Sims Memorial after more than twenty years from the inception of the idea marked an epoch in historic medicine in South Carolina.

In the domain of public health the program of the South Carolina Public Health Association proved to be highly interesting and illuminating. The attendance was large.

One other public health matter which deserves continued support was that of the Committee on Health and Public Instruction, to memorialize the Legislature for an appropriation of about twenty-five thousand dollars to establish a Bureau of Publicity under the direction of the State Board of Health.

The scientific exhibits were by far the largest ever provided by the Association. They were of national scope.

The commercial exhibits were good but not as numerous as had been hoped for.

The Wednesday night meeting to which the public had received invitations had a good attendance and the film on cancer put on by the State Cancer Committee was of extraordinary interest. There were many clinicians present who had traveled widely and expressed themselves freely that they had never seen such a wonderful demonstration of a scientific film.

The hotel facilities were entirely adequate and satisfactory.

The work of the various committees in charge of local arrangement left nothing to be desired on the part of anyone.

The attendance all told, including visitors, public health workers, doctors and their wives

and daughters, reached a total of about five hundred. This is considered to be very good in proportion to the membership of the State Association.

The report of the Secretary disclosed a slight falling off in the total enrollment at the close of the fiscal year December 31, but at the time of the meeting in Charleston more suspended societies had been reinstated and more members had paid their dues.

The report of the Councilors indicated a wide-spread interest in both organized medicine and scientific progress so that the administration of Dr. R. E. Hughes, President, evidenced continued growth of the Association and a degree of harmony perhaps more noticeable than ever before.

The decision to meet at Florence next year by a very decisive vote was ample testimony to the conviction that the Pee Dee section will measure up to its famous tradition for splendid hospitality and enthusiastic medical meetings.

THE A. M. A. MEETS AT PORTLAND

One of the most enjoyable meetings of the A. M. A. in prospect is that in Portland in July. Such a trip offers rare opportunities for the members of the South Carolina Medical Association to arrange an itinerary together. Ample provision for this has been made by the Georgia State Medical Association in their plans to have members of the profession from nearby Southern States make Atlanta their starting point and join the Georgia doctors for the trip. Information may be secured as to the details by writing to Dr. A. H. Bunce, Secretary of the Georgia State Medical Association, Atlanta, Georgia. Dr. Bunce is Vice-Speaker of the House of Delegates of the A. M. A. and Mrs. Bunce is President of the Woman's Auxiliary of the American Medical Association. We are confident these two high officials will take a personal pride and pleasure in seeing that South Carolina doctors and their families have every consideration on this splendid outing.

ORIGINAL ARTICLES

*LABORATORY AIDS TO DIAGNOSIS

By Major Arthur T. Brice, Jr., B. A., D. S. C., Director Laboratory, McLeod Infirmary, Florence, S. C

Sir William Osler, in his Silliman Lectures on the Evolution of Medicine, is my authority for the statement that the examination of Urine, as an aid to the Doctor, and an indication as to the condition of the patient, dates back to about the year 1300, when a Byzantine physician named Actuarius wrote a book on the subject. It now seems probable that the examinations in those early days, and the deductions from them, were based principally on the color and appearance and the amount of sediment in the specimen.

The biological chemistry of four simple substances is now so clearly understood, and their presence so easily demonstrated by simple chemical means, that we can use them as indices of the patient's condition, and the tests for them as guides to the patient's proper treatment in a considerable variety of pathological conditions. Sugar, Albumin, Acetone, and Indican, are these four substances which are not found except in infinitesimal amounts in the urine of healthy normal individuals.

SUGAR when found at all in the urine in amounts above 0.1% is always, with one single exception, present as Dextrose; and it always indicates an improper functioning of the Pancreas. I will have a little more to say of it when we consider the functioning of that gland. It's presence is easily ascertained, qualitatively and quantitatively, by a test that does not require the concentration of the attention for more than five minutes. The single exception which I have referred to is in the case of pregnant women, when sugar may normally appear in Urine in the form of Lactose, and has no pathological significance. Should there be any suspicion, however, of a diabetic complication of a pregnancy, a differential test to determine the nature of the sugar present should be performed, which will clarify the situation to the mind of the physician. It presents no difficulties and is based on the fact that Dextrose is known to produce fermentation with yeast, while lactose does not.

ALBUMIN is a simple protein substance which is present in all parts organs tissues and fluids of the body at all times except in normal bile and normal urine. It's importance to the body is safeguarded by the fact that the normal kidney does not allow it to pass out in the urine. Therefore when we find albumin in the urine it's presence is in every case a pathological phenomenon, and it's quantity indicative of the extent of the pathological process. There was considerable discussion tor some time as to whether or not we might not find that albuminuria occurred at certain periods in the life of an individual as a normal physiological process. It now seems safe to assert that a transitory, intermittent, or cyclic albuminuria is not infrequently observed in apparently healthy individuals, but that the facts so far brought forward do not warrant the assumption that such forms of albuminuria are physiological. Simon classifies the forms of albuminuria which may be observed in pathological conditions under nine heads:

- (1) Albuminuria associated with organic diseases of the kidneys, namely acute and chronic nephritis, renal arteriosclerosis, and amyloid degeneration of the kidneys. In these diseases the finding of albumin in the urine is a factor of primary diagnostic significance. The quantity of albumin eliminated is usually high, as much as 30 grams per day having been frequently observed.
- (2) Febrile albuminuria, which may occur in almost any one of the various febrile diseases. It is important to remember in dealing with such diseases that while the albuminuria may at times be referable to a true nephritis developing as a corrolary or result of the disease, such is the exception, and not the rule.

^{*}Read before the Clarendon County Medical Society, January, 1929.

- (3) Albuminuria referable to circulatory disturbances. In this class belong the albuminuria so frequently observed in cardiac insufficiency referable to valvular lesions, degeneration of the heart muscle from whatever cause, disease of the coronary arteries, etc., as well as local circulatory disturbances such as compression of the renal veins. The amount in such cases does not usually exceed 1 or 2 grams per day.
- (4) Albuminuria referable to an impeded outflow of urine. Simon expresses a belief that such a cause of albuminuria is probably of more frequent occurrence than is generally supposed.
- (5) Albuminuria of Hemic origin, which is observed in various diseases of the blood as purpura, scurvy, lukemia, pernicious aenemia, and also in cases of poisoning with lead or mercury, in syphilis, jaundice, diabetes, and following the inhalation of ether and chloroform.
- (6) Toxic albuminuria; which follows the poisoning by any of the many substances which cause harm to the human system.
- (7) Neurotic albuminuria, which has been noted to occur in a rather irregular manner in connection with epilepsy, tetanus, brain tumor, apoplexy, delerium tremens, as well as injuries affecting a certain area of the fourth ventricle of the brain.
- (8) A Digestive albuminuria, following the ingestion of excessive amounts of cheese, eggs or beef has also been observed.
- (9) Accidental albuminuria, resulting from an admixture of albuminous material such as pus, blood, lymph or chyle to the urine beyond the kidneys.

The qualitative tests for albumin are simple and require only a few minutes. The hot acid test is probably the most reliable as well as sensitive. Robert's reagent provides a satisfactory test but gives one or two false positives that are sometimes disconcerting. Esbach's method using Tsuchiya's modification of Esbach's original reagent is a suitable quantitative means, but requires 24 hours to carry out.

ACETONE is a substance which may be found in the urine, it's presence always being caused by faulty fat metabolism. It is al-

ways indicative of some state of malnutrition or starvation, which may accompany any one of a large number of diseases, and the test for acetone therefore always throws considerable light on this phase of a patient's condition. Lange's and Legal's nitroprusside tests are simple and rapid means of determining it's presence qualitatively, and we are now working at the McLeod Infirmary on a quantitative procedure which we hope may give to the study of acetonurias the tool that Esbach's test has been to the study of albumin.

INDICAN is the short name given to the compounds known as sodium and potassium indoxyl sulphate. It is a color pigment the presence of which in the urine is of a rather unusual type of significance. It has been conclusively shown that it's presence in the urine is always indicative of the presence of putrefactive microorganisms most usually in the large intestine. It is therefore a valuable index to the condition of this organ, and as the activities of putrefactive organisms are usually increased and favored by a decrease in the degree of acidity the presence of indican in the urine also often points to a condition of lowered acidity in the stomach. In simple, uncomplicated constipation indicanuria is not seen. Folin's and Obermayer's tests provide simple and rapid qualitative means of gauging the extent of an indicanuria.

M1CROSCOPIC: In the microscopic examination of a specimen of urine we look first for three organized sediments which are of primary importance in the diagnosis of various conditions, PUS, BLOOD, and CASTS, and secondly for epithelium.

PUS: For the determination of the presence of pus cells, which are the leukocytes of the blood, in a specimen of urine we have to depend on the microscope which is the only and ultimate means of diagnosis and should be employed in every case. There are one or two chemical tests for the presence of pus, but they are not satisfactory of application, and while we may miss an occasional specimen due to the disintegration of cells from ammoniacal decomposition, still the microscope is the most reliable means at hand. From a clinical point of view it is important to establish the source of the pus in every case of pyuria. This may at

times be difficult, but the following guides may be found of value in making a differential diagnosis.

While pus is usually present in both acute and chronic nephritic conditions it's quantity is usually small. Whenever in the course of a chronic nephritis large numbers of pus corpuscles appear they may be regarded as indicating either an acute exacerbation of the disease or a complicating inflammation of some portion of the urinary tract. Errors may be guarded against by observing the number and character of the epithelial cells present at the same time, particular attention being paid to the round cells which are known to come from the deeper epithelial layers of any part of the urinary tract. Aside from the presence or absence of albumin as shown by the chemical examination, our best guide, however, to the existence of a nephritic condition from the microscopical examination lies is the presence or absence of tube casts. These are almost always present in nephritis, but not in pyelitis. In pyelitis the round epithelial cells are most usually found in association with the pus, often in very large numbers, but the tube casts are absent. Very significant also in pyelitis is the fact that the urine is most often acid and that bacteria in large numbers are generally present. When pyelitis is associated with nephritis it may at times be almost impossible to determine the origin of the pus; but if the rule is remembered that in chronic nephritis the number of leukocytes is small, it is not likely that a pyelitis will be overlooked, particularly if the clinical symptoms are taken into consideration.

A pyuria referable to ureteritis can hardly be diagnosticated from the appearance of the urine, and in suspected cases catheterization of the ureters should be resorted to, which will probably throw light upon the condition.

The point to remember in connection with cystitis is that the urine is commonly alkaline, and always so in the severe forms. It is in this disease that the largest numbers of pus corpuscles are seen. The alkalinity of the urine is due to ammoniacal fermentation and it may happen that the pus cells are disintegrated by the action of ammonium carbonate and not observed under the microscope but

form a gelatinous mucoid sediment that escapes from the vessel in a mass when the urine is poured out.

In urethritis pus may be present in considerable amount. In order to distinguish between a simple urethritis and a urethritis complicated by a cystitis the urine should be collected in two portions and allowed to settle. In simple urethritis uncomplicated by a cystitis the first specimen will be cloudy while the second is clear. The reaction of the second specimen will be acid. If a complicating cystitis is present the second specimen will usually be as cloudy as the first, and may be more so, and the reaction of both specimens will be alkaline.

BLOOD: The presence of the red corpuscles of the blood in a specimen of urine is easily recognized under the microscope and denotes a hematuria. I am not going into an enumeration of the various forms of hematuria other than to say that clinically it is of course always all-important to determine the source of the blood.

CASTS: I have already mentioned in connection with their association with pus in cases of nephritis. The exact mode of formation of these morphological elements of the urine is not very clearly understood. They appear to be moulds of various portions of the uriniferous tubules. They may be observed at times in small numbers in the urine of apparently healthy individuals, but their appearance is always to be regarded as a pathological event, and as we have observed most apt to be indicative of a nephritic condition.

FECES

Probably the most useful examinations of the feces to the physician are those for the presence of various parasites and bacteria. As I am, however, endeavoring to limit myself in this paper to simple chemical tests and morphologic examinations, and as the parasitology and bacteriology of the feces is a subject that is rather difficult to handle intelligently in a talk without the use of lantern slides or photographs, I will mention only three simple chemical tests that may be performed easily in a few moments and that often throw considerable light upon a patient's condition.

THE TEST FOR BLOOD is simply performed with the aid of benzedin, glacial acetic acid, and hydrogen peroxide. It is a very delicate test, and in order that it's findings should have a direct bearing on the problem it is advisable that the patient should have eaten no meat containing animal hemoglobin for a considerable period of time before taking the specimen. If this is done the test for blood may often serve as a valuable indication as to what is taking place within the large intestine.

BILE PIGMENTS are normally absent from the feces. They are found there often in large amounts in catarrhal conditions of the small intestine, and their presence is equally easily demonstrated by a simple chemical test

FATS: The presence of fats in the feces is quite constant even in health, and it therefore requires some little experience to determine what amount constitutes an excessive elimination of them, or a steatorrhea as it is called, presupposing of course that excessive quantities of them have not been ingested. A simple chemical qualitative test is available for them, making use of a solution of a dye called Sudan III in acetone, and I therefore often wonder that this test is not more often called for, as steatorrheas are observed in a number of pathological conditions and are quite diagnostic. For example if an insufficient supply of bile is poured into the small intestine a steatorrhea will naturally occur and is observed constantly in cases of biliary obstruction. It is also met with in diseases affecting the small intestine such as atrophy or degeneration of the intestinal mucosa, tuberculous ulceration, or in diseases affecting the lymphatic glands and vessels of the mesentery, as in chronic tuberculosis peritonitis, as well as in simple catarrhal conditions. In diseases affecting the external secretions of the pancreas, such as in cases of sprue, steatorrhea is also an important symptom.

THE BLOOD

In considering the various standard routine procedures which may be applied with profit to the blood I am going to divide my subject under three heads, MORPHOLOGY, SEROLOGY, and CHEMISTRY. Under morphology

I shall include the various counts that may be performed and will deal with it first.

MORPHOLOGY: The two morphological elements of the blood which afford the most important indications to a patient's condition are the red corpuscles or erythrocytes, and the white corpuscles or leukocytes. Their number per cubic millimeter, size, shape, color and appearance give us information on two very widely separated phases of the human machinery that is absolutely diagnostic in many instances, and always throws a valuable light that is spoken of as the blood picture in every pathological condition. I am not going into a discussion of the blood picture in various comparatively rare diseases which are primarily blood diseases, but would like to stress the importance of a morphological examination of the blood as an aid to the physician in many of the more common diseases which you most frequently have to deal with.

THE RED CORPUSCLES are indices of the condition spoken of as aenemia, which complicates so many other conditions. Their number per cubic millimeter, considered in conjunction with an estimation of the hemoglobin which they contain based on a percentage scale of normality, indicate to us not only the extent of an aenemia but also its nature. In the primary anemias the percentage of hemoglobin and the red count may be low, but the absolute quantity of hemoglobin per single red cell is high. In the secondary anemias not only the percentage hemoglobin and the red count, but also the absolute hemoglobin per cell is low. We thus see that a red cell count and hemoglobin estimation will tell us at a glance whether an anemia is primary or secondary, mild or severe.

THE LEUKOCYTES OR WHITE COR-PUSCLES are indices primarily of infection, and secondarily, as they are the elements of the blood that combat infection, of the resistance of the human organism to that infection. Whenever an even moderately high white count is obtained it may be safely said that infection of some kind exists. There are only three common exceptions to this rule and these give to the white blood count it's most important diagnostic value. In Malaria, in Typhoid fever, and in Influenza, the white blood count is universally normal or low, and therefore when such a count is obtained in a fever of this class it is almost as equally diagnostic as an actual demonstration of the organism involved. The kind, and percentage proportions present of the different leukocytes, or the differential count as it is spoken of, is also of value in all infectious conditions. A high percentage of polymorphonuclear neutrophils having the same significance as a high total white count, as these cells are the normal scavengers of the blood, and a low percentage of them consequently also indicating a lowered resistance to the infection. The percentage of eosinophilic leukocytes present also has a particular diagnostic significance, as their proportion is almost always increased in cases of infection by intestinal parasites. Besides these normal types of leukocytes there are other abnormal forms which are diagnostic in certain particular conditions. In addition to the information which we have already credited to them, the normal polymorphonuclear cells also give us a very valuable prognostic index by an examination of their age, based on nuclear morphology.

SEROLOGY: In the serological tests we make use of the presence or absence in the blood serum of substances variously spoken of as antibodies or agglutinins, the exact chemical nature of which we have no knowledge of whatever, but whose existence has been proved, and which have been found to be indicative of various diseases in various of their phases. The two most useful of these tests are the Wassermann and the Kahn, with which you are all undoubtedly familiar. I say "undoubtedly" because I feel sure that you depend on these tests for your diagnosis in the condition known as Syphilis, to a much greater extent than you depend upon Laboratory procedures for information or guidance in other diseases. I cannot but regret this, and would wish that you were as conversant with the application of other tests as you are of these two. It may interest you to know that at the McLeod Infirmary we run our own Kahn test and always also send off a specimen to the State Laboratory at Columbia to be checked by the dual test which they employ, and that in our small series of 160 tests during the past

two years we find an 80% complete agreement between the Wassermann and the Kahn, the remaining 20% being divided 14% Kahn Positive where the Wassermann was Negative, and 6% Wassermann Positive with Kahn Negative; and that in general we find the Kahn test to come positive earlier in the disease than the Wassermann, and the Wassermann to remain positive after repeated treatments longer than the Kahn.

The Widal is another serological test that is useful in the diagnosis of Typhoid Fever. It is also useful as a means of testing for immunity to Typhoid fever. It depends upon the power of immune or infected serum to agglutinate or cause clumping among the bodies of the typhoid organism. In making use of the Widal it should be remembered that it is only in very rare instances that it comes positive during the first week or ten days of the disease, and during this time, lacking the facilities to actually culture the organisms themselves from the blood, the most reliable diagnostic test is the white blood count.

One other serological test that I want to mention is the Van den Bergh. This test is strictly speaking a chemical reaction between bile when it is present in the blood serum, and Ehrlich's Diazo reagent, but as it is performed on serum, and is not an exact quantitative measurement of any chemical substance in the blood, I think that it can be classed under serological tests. We will consider it as such for tonight at any rate. The test is particularly useful in determining the origin of all jaundiced or leterus conditions, it being said that it will detect the presence of bilirubin in the blood serum in dilution as high as one in 11/2 million parts. If the reaction is reported positive and immediate the indication is that there is a large amount of bilirubin in the blood and the jaundice is probably of the obstructive type. If the reaction is reported negative or delayed the indication is that the bilirubin is not present in the blood in such large quantities and the jaundice is probably of a haemo-

A rather useful little test in following the course or degree of severity of a jaundice is the lcterus lndex. This is simply a color comparison of the clear blood serum against a set

of artificial standards, which grade its degree of yellowness.

CHEMISTRY: Let me preface my remarks on the subject of Blood Chemistry by saying that there is no such thing as a complete blood chemistry. There are seven or eight substances normally present in the blood in the quantitative increase or decrease in which we are interested is as many different pathological conditions, but as far as our knowledge goes up to the present time we cannot even say in what compounds lie all of the simple element Nitrogen which we find in the blood. It is therefore absolutely useless for you to send a patient or a specimen of blood in to a clinical laboratory with the request for a complete blood chemistry; because the Laboratory just simply doesn't even know how to go about it. Blood chemistrys are of no value to a Doctor unless he knows something about the substance for which the bood is examined and its action in the human system in the condition or conditions on which he is seeking to obtain a grasp, because all that the Laboratory can tell him is whether the substance that it has examined for is present in the blood in proportions that are high or are low. If a Doctor has this knowledge, however, blood chemistrys may be very valuable to him. I will try to give you a list of the substances that the blood is most commonly examined for with a word or two about the conditions in which each is of particular interest, and then a few words of explanation on some of the more practical considerations of the matter:

SUGAR is of primary interest in the condition of Diabetes, in which when uncontrolled it is high. Should the patient be on an insulin diet and have taken too much insulin so as to approach the condition known as insulin shock the sugar value will be low.

NON PROTEIN NITROGEN consists of all of the nitrogen in the blood exclusive of that contained in the blood proteins. It includes the nitrogen contained in the Urea of the blood, the Uric Acid, the Creatinine, the amino acids, and other substances which as I have mentioned we are not yet acquainted with. It is of interest in Nephritis, Uraemia, and Bichloride of Mercury poisoning, in all of which con-

ditions it is proportionately high to the extent or severity of the disease.

UREA is of interest in the same conditions in which the total non protein nitrogen is important, and high values have the same significance. In getting your grasp on any of these conditions by means of a blood chemistry use one or the other of these two substances, because the Urea Nitrogen is simply about onehalf of the total non protein nitrogen, and should you ask a laboratory for a Non Protein Nitrogen and a Urea, the laboratory would realize that you were simply requiring it to run two separate tests as a check on the accuracy of it's work. Some Doctors seem to prefer one of these two substances and some prefer the other. My own belief is that the technic for the determination of Non Protein Nitrogen is the more reliable, and that it is an equally sensitive index of the patients condition.

URIC ACID: This substance is supposed to be the first of the nitrogenous group of substances to show an increase in the blood stream in cases of kidney impairment, but there are such profound difficulties in the way of it's accurate determination that it is coming less and less to be called for as a blood chemistry. It's most practical use now seems to be in the control of the condition of Gout, in which it is quite high.

CREATININE, is the substance in the blood which has by far the greatest prognostic significance. It is the last of the nitrogenous group to show increase in kidney impairment, and when we find creatinine in amounts greater than 5 milligrams per 100 cc of whole blood we may say "Death within 6 months" with almost mathematical surety. Whenever a high total non protein nitrogen value is obtained a Creatinine determination should also be run, and most Laboratories will do this without being told to.

THE CHLORIDES of the blood are of interest in differentiating two quite large groups of diseases. In renal and cardiac diseases the values are high. In fevers, diabetes, pneumonia, and severe toxemias of the upper gastro-intestinal tract they are low. Occasionally a differential diagnosis will hang on the result of this test.

BROMIDES are not normally found in the blood. The chemistry for their determination is useful in controlling the treatment of epileptics with bromides, as over 150 milligrams per 100 cc of serum in the blood stream will result in an intoxication that is spoken of as the toxic zone.

CHOLESTEROL is a substance that is still quite a subject for study. It has been found high in a number of different conditions, and the test for it is sometimes used as an index of the severity of a condition.

CALCIUM is the substance of which as you know our bones are composed. It is carried normally in small amounts by the blood stream and the quantitative test for it's presence is of value in conditions in which the calcium metabolism of the body is affected, as in parathyroid tetany; or where it is desired to control the calcium of the diet on account of the presence of abnormal calcareous growths such as cataracts.

For the practical side of blood chemistry 1 would like to remind you of just two important considerations. First that SUGAR values in blood decrease very rapidly after the blood is drawn, so that it is necessary in order for the test to be of any value to run the determination within an hour after taking the speci-No preservative of sugar values for longer than this has as yet been found. Doctor Carrigan can now run an accurate blood sugar for you here in Summerton, which should simplify the problem of your diabetics tremendously. If you will send them over to us at Florence we have an accurate test that requires the use of only 0.1 cc of blood taken from a needle prick of the finger or ear. The values of the other group of nitrogenous substances which are of interest are not as subject to rapid deterioration, and are safe for as long as 20 hours at ordinary temperatures.

Secondly I would like to remind you that all of our methods for chemical analysis of blood are based on accurate volumetric measurements, and it is therefore necessary for us to have the blood in liquid form. The best means of preserving it in this condition is by the addition of a few crystals of potassium oxalate per 5 or 10 cc of blood.

SPINAL FLUID

A word or two about cerebrospinal fluid, which is a very nice type of fluid to work with in the laboratory. I do not know how expert many of you may be in making a spinal tap and drawing a fluid that is free from blood. This freedom from blood is a sine qua non of any spinal fluid test, as it's presence invalidates almost all of them. If you can obtain a blood free specimen however there are a number of simple tests that may be performed on it that are usually pregnant with differential value. The Wassermann and Kahn tests may be carried out on it and are diagnostic of syphilis of the central nervous system. The colloidal gold test will differentiate pretty clearly between syphilis, paresis, and meningitis. The colloidal mastic test is again diagnostic of syphilis, as well as somewhat indicative of its severity. For differentiating the various types of meningitis we have the differential count of leukocytes, the polymorphonuclears predominating in acute or purulent meningitis, the lymphocytes in tuberculous meningitis. The cell count is indicative of the severity of the process. The quantitative chemistry for sugar also gives a clear cut differential test between tuberculous and purulent processes.

THE PANCREAS

The pancreas is the gland in our bodies that controls our sugar metabolism. When it goes wrong as in diabetes, our tissues fail to properly use up the sugar that is supplied to them from our food and this sugar backs up as such in the blood stream. When a certain level of sugar in the blood, which varies somewhat with every individual but on the average is about between 170 and 180 milligrams per 100 cc of whole blood, is reached the sugar breaks through the barrier of the kidney and appears in the urine. In controlling a diabetic it is first necessary to ascertain accurately this sugar threshold, or value in the blood above which the sugar appears in the urine, and thereafter for some time the diet and insulin treatment may be controlled by repeated examinations of the urine. I would like to recommend to you Benedict's Quantitative Reagent for this purpose. The test for sugar in urine with this

solution is carried out exactly as with other reagents with which you are familiar, except that the amount of urine required to produce the usual color change is accurately measured from a pipette which enables you to measure accurately the sugar present even when the amount is normal. You are thus enabled to catch your diabetics well before the urine sugar has reached an alarming proportion and there will not be the repeated necessity for blood examinations except possibly once or twice a year to be sure that the threshold value is remaining the same.

THE LIVER

The test for hemoclastic crisis is a simple test of the functioning of the liver. The term hemoclastic crisis is applied to a transitory leukopoenia which follows anaphylactic shock due to the presence of toxic protein-split products in the blood stream. It apparently results from a failure of the liver to detoxicate these modified proteins, and thus suggests a disordered function of the liver. The patient fasts for at least five hours and a leukocyte count is made. The patient then ingests about 200 cc of milk. The leukocyte count is repeated at one-half hour intervals for from one to three hours. If it is found to have decreased during this period the test is positive. Differential leukocyte counts may be taken with each total leukocyte count and if the test is positive should show a relative lymphocytosis. This test has been observed to be positive in inflammatory, malignant, and cirrhotic diseases of the liver, and in diseases of the biliary system and gallbladder, in heart diseases with chronic passive congestion of the liver, in Banti's disease, and in lymphatic leukaemia. It has no practical significance in gallbladder surgery.

Another liver function test that is equally simple to perform, and possibly a little less discomforting to the patient in that only two specimens of blood are taken within an hour instead of 5 or 6 over three hours, is the Rosenthal Bromosulphonphthalein test. In this test a definite amount of the indicator dye per kilogram of body weight is injected into the patient intravenously, and specimens of blood are taken from the other arm at the end of one-half and one hour. The dye has been

found to be excreted practically only by the liver and is non toxic. A normal liver will remove most of the dye from the blood stream in 15 minutes and practically all of it within one hour. By measuring colorimetrically the amount of the dye which remains in the blood at the end of one-half hour and one hour we can therefore get a very good idea of the extent of a liver impairment.

THE KIDNEYS

The phenolsulphonphthalein test for kidney function is probably the simplest of all the functional tests for the general practitioner to perform, and as it has been in use since 1910 it's reliability is well established. The test is carried out as follows: The patient drinks about two glasses of water to promote secretion of the urine, and twenty minutes later empties the bladder. Exactly 1 cc of the indicator dye is then injected intramuscularly, or if there be a general edema to hinder absorption intravenously. One hour and ten minutes from the time of the injection, the ten minutes being the usual average time for the first appearance of the dye in the urine, the patient voids as completely as possible and the whole specimen is saved. The patient voids similarly again at the end of two hours and ten minutes, and the specimen is saved. The color of the dve is brought out by making the specimens each up to 1000 cc with water and alkalinizing them strongly; and the percentage of the dye eliminated in each specimen measured by comparison of the color with a set of known standards. The normal kidneys excrete a total of from 60 to 75% of this dye in the two hour period. A fall to 40% indicates impaired function and demands serious attention, although it does not necessarily mean nephritis. Reduction to 20 or 30% is the rule in well marked cases of nephritis; while excretion of less than 10% may usually be interpreted as forecasting an early fatal termination. Exceptionally deaths from uremia have occurred when the output was as high as 40%. This test finds its greatest usefulness in the study of chronic interstitial nephritis, the form of kidnev disease in which the urinary changes are the least striking. Todd gives some cautions

for the use of this test which it may be well for me to repeat to you.

- (a) Entirely normal or even increased excretion is sometimes noted in acute nephritis, especially in acute glomerulonephritis.
- (b) In certain other cases of acute nephritis extremely low excretion, reduced almost to zero, which in chronic nephritis would point to an inevitable early fatal outcome, may exceptionally be followed by complete recovery.
- (c) For a short period at the outset of a chronic nephritis there may be exalted renal activity, with an output of 70 to 85%.
- (d) Low excretion, exceptionally as low as 10 or 15% is the rule in cardiac decompensation with chronic passive congestion of the kidneys, and this rises rapidly when the congestion is relieved by improved heart action.
- (e) In chronic diffuse (parenchymatous) nephritis, although the output is significant, it sometimes presents inexplicable variations.

The blood chemistries for Non Protein Nitrogen, and Urea, are also as we have mentioned primarily tests for kidney function, as after a certain critical stage of the disease is reached the retention of these nitrogenous products in the blood always exists.

THE STOMACH

A number of different procedures are standard for analyzing the gastric function. We do a very simple one at the Infirmary which 1 think is quite efficient. On an empty stomach the patient is given a test meal to stimulate gastric secretion, consisting of two slices of dry bread and a glass of water. An hour after the beginning of the meal the stomach content is removed by means of a stomach tube and filtered through a coarse paper. The filtrate is tested for the presence of free hydrochloric acid qualitatively, and the amount present then estimated quantitatively by titration with N/10 Sodium Hydroxide. quantity of combined and total acids present is then similarly estimated by titration with the alkali. This procedure is of value as low acid values are invariably obtained in cases of gastric cancer, while high values are the rule in ulcer. Low values are also quite universally found in pre-clinical pernicious aenemia. The filtrate is next tested qualitatively for the

presence of lactic acid, which is not secreted normally by the stomach although small amounts of it may be ingested with the food. It's presence in considerable quantity is principally indicative of cancer. The specimen is next tested for blood with the usual benzedin chemical test, as blood is usually found in varying amount in the content in either cancer or ulcer. The final examination is a microscopic one, which makes note of any unusual elements that may be seen, but looks primarily for the presence of the bacillus of Boas & Oppler, This organism at one time caused quite a stir in the discussions on the etiology of cancer, but was later shown to have no direct bearing. It is, however, the principal lactic acid producer that may be found in the stomach, and our microscopical examination is thus a check on our chemical test for lactic acid and vice versa.

*NEPHRITIS OF CHILDHOOD

By Julian Price, M. D., The McLeod Infirmary, Florence, S. C.

For years there has been a great diversion of opinion with regard to the different types of nephritis in childhood. That there are definite varieties is well known, although there are many cases which are so nearly on the border line that they were hard to classify. To appreciate just what type of nephritis we are dealing with is not only of academic interest, but is of great clinical significance, for on it largely depends the type of treatment we will institute, the complications we will look for and the prognosis we will give to the parents.

I am presenting the classification which seems to me the best and one which I think is gradually coming to be recognized as the most workable. It has been recommended by many workers and is the one which Lyttle, of New York, uses in his volume on Diseases of the Kidney in the new system of Clinical Pediatrics. Under each type, I will give briefly the general picture of the disease.

Before taking up these different types, however, I wish to run over the various tests which

^{*}Read before the Clarendon County Medical Society, January, 1929.

we can make to find out as best we can the functional activity of the kidney. Physical examination with its inspection, palpation, and percussion gives us practically no help and we are forced to use other methods. They are briefly:

- 1. The excretion test. How much water is the kidney capable of eliminating? The simple method of measuring the amount of fluid taken into the body within 24 hours and comparing it with the amount excreted will tell us this. In the normal kidney these amounts will usually be within 200 cc. of each other. Another method, the flushing test, is to get the child to take 1000 cc of water within two hours and measuring the amount excreted within the next two hours. Normally about 70% will come through.
- 2. The concentration test. Adapted from the method advised by Mosenthal, this consists in taking two hour specimens during the day and a twelve hour specimen at night, determining the specific gravity of each. Normally there should be a difference of .010 between the highest and lowest, showing that the kidney can excrete more concentrated urine at one time than at another.
- 3. The phenolphthalein test. 1 cc. of the dye is injected, the urine collected in one and two hours and the percentage of dye excreted determined. Normally a child will excrete from 30-50% within the first hour and 60-70% before the second hour.
- 4. The careful examination of the urine itself, with especial regard to the color, specific gravity, albumen, and microscopic findings.
- 5. Blood chemistry, noting especially the amount of urea, non-protein nitrogen, and chlorides.
 - 6. The blood pressure.

To come to the nephritis itself, we have three great classes—the glomerular, the tubular (so called nephrosis) and the mixed, based upon the findings in the kidney itself. The pathologists tell us that no type is found pure, that there is never an involvment of the glomeruli without some injury to the tubules and parenchyma as well, but there is enough of a preponderance of damage to one part of the kidney to give a definite clinical picture. Any of these types may become chronic, al-

though chronic nephritis is far less common in children than in adults, and for this reason, I will confine myself to the discussion of the acute conditions only.

Let us consider first the acute glomerular nephritis. A case which I saw two weeks ago will well illustrate the picture. A child of four was brought to Dr. Mobley, of Florence, for consultation with regard to his tonsils. For the past month the child had been fretful, irritable, and had had no appetite. Two weeks previously he had started to run a mild fever each day. Dr. Mobley found that his tonsils were enlarged and somewhat diseased but did not think that they could account for his condition, so referred him to me for examination. I found a boy of four, well nourished, who appeared somewhat irritable and drowsy. The general physical examination was negative although the father said that a day or two before this his eyes had seemed a little puffy. The blood pressure was normal. The urine was smoky in appearance with a specific gravity of 1.014. The albumen was two plus, and there were large numbers of red cells in the specimen with scattered hyaline and granular casts. A diagnosis of acute glomerular nephritis was made and the child taken home to be under the care of his family physician.

The history just given is a typical one. The onset is more often mild than stormy, with a general lassitude, a low fever, and frequently an upper respiratory infection. The first thing that the parents notice abnormal is either the slight puffiness of the eyes or the change in color of the urine. Physical examination reveals very little. In this type we do not have the generalized edema. The blood pressure tends to be raised. The amount of urine excreted is normal or only slightly diminished. The Mosenthal test shows that the kidneys are not able to concentrate urine satisfactorily. The phthalein output is greatly diminished, sometimes being as low as 10% in two hours. The blood chemistry shows an increase in urea and non-protein nitrogen, with a normal chloride. The urine itself ranges from a smoky to a bloody liquid in appearance. Microscopically we find many red cells and casts with occasional white cells.

The outlook in these cases is fair. If the

child recovers from the attack the chances of its going on into a chronic state are small, although such conditions are occasionally met with. Occasionally the child loses so much blood through the kidneys that there is a very marked secondary anemia. I saw one boy with a hemoglobin of 20%. So it is with regard to the acute condition that we have most to worry in giving our prognosis. The milder cases clear up readily under treatment, the severe cases lead on to uremia and an increasingly high blood pressure. In the severest stages we find convulsions, coma, sometimes small ruptured blood vessels in the brain, and death. Unless one is sure of his ground, the prognosis in these cases should always be guarded.

The treatment consists in taking all strain possible from the kidneys, aiding in the elimination of toxins, and attempting to control the high blood pressure and onset of uremia. Absolute rest in bed is essential, the patient remaining in bed until the urine is free from blood. Fluids can usually be given freely and in some cases should be forced. A diet low in protein and free from salt is usually employed. Of course any focus of infection should be removed if possible. Often the simple draining of a sinus will work wonders. For the uremic convulsions, which Blackfan claims is due to an edema of the brain, magnesium sulphate is our best weapon. Large doses are necessary, and may be given intravenously, intramuscularly, or by mouth and rectum. I have given one ounce every three hours, either by mouth or rectum, with very satisfactory results. For the high blood pressure, the use of magnesium sulphate coupled with nitrites seems to be most efficacious. Chloral hydrate is of great help in controlling the convulsions. I saw one child of seven with a blood pressure of 200 in uremic convulsions, during which she suffered a small cerebral hemorrhage with a resulting temporary hemiplegia. By the use of magnesium sulphate, one ounce by rectum every three hours, sodium nitrate every 6 hours, and chloral hydrate three times a day, her blood pressure was brought down to 140, her uremic condition disappeared and she was soon her lively self again.

When we come to tubular nephritis, we find

a different picture. The onset often follows an upper respiratory infection. thing noted is a slight swelling of the feet. On examination, nothing is made out that is abnormal except the edema of the feet or if it has progressed a massive edema of the extremities, scrotum, and an ascites. The blood pressure is normal. The urine is small in amount, and pale. The specific gravity remains very little changed in the Mosenthal test. The phthalein output is normal or only slightly reduced. The examination of the urine shows a very large amount of albumen and it is in this type that we find urine boiling solid. Microscopically we find many casts, a few white cells, and very rarely an occasional red cell. The blood chemistry shows a reduction in the chloride content, and a normal or very slightly increased non-protein nitrogen.

These cases have really a poorer outlook than the acute glomerular ones, not so much because they are more severe in a single attack but because they tend to have recurrent attacks with a gradual wearing down of the strength of the heart. Their terminus is not uremia with convulsion, but a generalized edema with cardiac failure.

In treating these cases, we are attempting to aid the body in the elimination of fluid, prevent the reaccumulation of the fluid, remove any source of irritation to the kidney, and strengthen the heart. Water should be limited if the kidney excretion is limited and then given freely when diuresis sets in. A high protein and salt free diet is advocated. Magnesium sulphate is helpful in a good many of the cases in helping the body to get rid of the fluid. Theobromine, caffein, urea, digitalis, thyroid and parahyroid, have all been found helpful in some cases. Hot packs are frequently used and in some cases are of great value. It is essential in this type of nephritis, as in the acute glomerular, that we remove all foci of infection. Marriot and others claim that an infection of the upper respiratory tract and adjacent sinuses are usually the exciting cause. The patient should be kept in bed until all the edema has subsided and the urine shows only a trace of albumen. The parents should be warned of the chance of recurrence.

In addition to the two types discussed above,

we have a third type in which clinically we have elements of both the glomerular and tubular. There may be a marked edema with a high blood pressure and blood in the urine. These cases tend to be more chronic in type than the others. For want of a better name, we call them the mixed or interstitial type. In their treatment we have to be guided by the clinical picture. Elimination of the fluid from the body and toxins from the blood, removing all strain upon the heart and irritation from the kidney, carefully watching the blood pressure and approach of uremia—must all be sought for. The outlook in these types is not good because of their tendency to chronicity.

From the above discussion it can be seen that nephritis in children is not a condition to be considered lightly. A knowledge of just what the disease is, what the complications are that may arise, and what part focal infection may play are essential for the best treatment.

*PRESIDENT'S ADDRESS

By Rolfe E. Hughes, M. D., Laurens, S. C.

"He who cures a disease may be the most skillful; but he that prevents it is the safest physician." (Thomas Fuller)

There are two problems confronting the public today, problems which are distinctly the duty of the medical profession to solve, in fact, it is a responsibility and really an obligation resting heavily upon us. Our past successes and victories in the whole realm of medicine has been such as to justify a confident conviction of our ability to handle these also, especially when the etiology and the prophylaxis is so well understod as it is today.

Dr. Alfred Stille said; "A physician in the highest sense is an artist whom no amount of knowledge and no degree of culture can ever elevate to a high rank in his profession unless he has the perception of form, color, proportion, and the manifold qualities and relations of things."

The writer feels and his conscience, (note the word conscience please and not sensationalism) prompts the thought that in our very zealous, most commendable, and enthusiastic

*Delivered before the South Carolina Medical Association, Charleston, S. C., May 8, 1929.

work spurred by the wonderful achievements in the last thirty years during which time advances have been greater than for any five hundred years before, we are in a way overlooking two grave questions, very far-reaching and disastrous, and to a large extent preventable;

First, The Care of the Tuberculous. This is a subject that is entitled to much study and thought. The economic and the hygienic sides could be markedly improved, and in this day when its cause, prevention, and cure are understood by a public, an alert and largely educated public, its inadequate means of control is a reflection of the intelligence of our State and profession. The people should be made to understand that the state is calpable if its citizens are allowed to become ill through manifest neglect. Last year over one thousand negroes died from this disease in South Carolina. The very fact of its much lessened mortality in the whites, under modern sanataria methods, should be in itself an incentive for and proof of the necessity now of adequate bed facilities for the indigent either white or colored. Can we conceive of anything more important for the state than the proper care for these patients? The hospitals, besides approved treatment, would prevent its spread, and the educational side of so much significance would be of untold value. In our state of nearly two million people, there are FOUR-HUNDRED AND SEVENTY-FIVE BEDS. Its ridiculous if it wasn't so pitifully pathetic. So the doctor is the one to meet this and he can in South Carolina. He will as he always has done, do his full duty. Our large negro population must be educated and thus protected for their own sakes as well as a prophylactic measure for the whites.

Very wisely the state, in line with progress and necessity, sees where sixty-five million must be spent on the highways. Couldn't it also spare the pitiful sum of say two per cent of this amount on the establishment of Tuberculous beds necessary to control the spread of the disease? If not then Christianity and Civilization are but hideous masks, and morals and esthetics seem out of place in man, said to be created in God's image.

Another problem and even of more impor-

tance, is the increase of mental diseases. "The diseases of the mind are more destructive and in greater number than those of the body." It has been enormous in the last twenty-five years, "The office of the physician extends equally to the the purification of the MIND and BODY. To neglect the one is to expose the other to evident peril. It is not only the body that by its sound constitution strengthens the mind, but the well regulated mind by its authoritative power maintains the body in perfect health." (Plato). Today medicine, particularly preventive medicine, should be the property of all mankind, a HUMANE man, a cultured progressive physician must be aware of his relationship to the civic and economic problems of the community and nation. No longer can bromidic platitudes, sentimental protestations, self styled philanthropic, and martyr like poses even serve as a placebo. It is a day of thought, judgment, service, synergism, and action.

Frankly, I think no physician should consider himself well educated or trained, until he is as well qualified to diagnose and treat mental troubles as the physical. Very few of us have the training and interest necessary to intelligently manage these cases, and a good many of us accept with a puerile satisfaction our blatant ignorance in mental troubles, as much as to imply, "I am ne plus ultra on physical ills, but on the mental, that is not in my line, you will have to consult a psychopathist."

All of us can't be eminent psychyiatrists any more than all can be expert surgeons or opthalmologists, but it should be a phase of our professional service to cultivate for duty's sake as well as adorn our professional accomplishments, important even to the surgeon, especially to pediatrician and specialists. Over half of the beds of hospitals throughout the country are occupied by patients suffering with mental or nervous diseases. Are not such facts alarming? Our state institution shows a noticeable increase in the number of admissions during 1928 as compared with 1927 is was reported 1,274 patients having entered the institution last year or 250 more than were admitted the year previous. The large increase in the number of admissions was in great part due, the report adds, to the number of persons affected

by *pellagra*. Last year the institution received 287 persons suffering from this disease while the preceding year 183 were admitted.—Pellagra is preventable.

Then when experts in this line tell us that the causes are so numerous and name such as toxie psychosis, exhaustion psychosis, thyroid, the exanthematous fevers, diphtheria, influenza, tonsillitis, Pellagra about ten per cent, neurosyphilis thirty-two per cent, and the various neurasthenias, fear repression, suppression, all having to do with the educational ENVIRON-MENT, many of which are often terrible factors. All of us have cases of religious fanatics, for instance, often caused and made worse by an atmosphere of sepulchral yum yum and sensational so-called professional evangelism. Block says; "While it is our duty to uphold religion, it is also our duty to bring about an adjustment and reconciliation of the herd instinct with the primitive instincts, and not expect, nor allow patients to expect, to be less than human in feelings and desires, but to teach them the necessity of thinking of the good of society as a whole and to retain their peace of mind by never doing violence to their conscience or the conscience of others. Unfortunately, religion, as it is sometimes taught causes more insanity than syphilis, and it is our duty to make it more a matter of intelligence and less emotion. A preacher should be careful never "to hope to merit Heaven by making Earth a Hell". Their intention is often, of course, good and praiseworthy, but such vague expressions as "unpardonable sin", or "eternal torment," instill into the people FEARS which undermine their reason. So often in response to the question, "When did it begin?" they reply, "I was attending a revival," or "It was during a protracted meeting". Would it not be better to teach people that it is best to be good in order to retain their self respect, to have a clear conscience, to avoid social degradation, to avoid disease, rather than teach them that they will lose their immortal soul and will be punished through all eternity? Let them realize their duty towards civilization and the part they should play in it."

Olin Chamberlain, Charleston, wisely says; "Society has become very complex; instincts and conventions are continually at war. Dem-

ocratic institutions throw a great deal of responsibility upon the individual. Humanitarian ideals, splendid as they are, nurture and save the weaking during infancy and early childhood and at early manhood launch him out into the world on his own responsibility." Fear, anxiety, grief, disappointment, rush, and tension all are factors. The modern scheme of life reduces mentality; but modern sentimentality does not permit sufficiently rigorous methods and so we are trying to absorb every kind of physical and mental disability, and thus we are gradually reducing the level of intelligence and morality. Hence our growing army of juvenile criminals. Environment is far more important than heredity.

The well informed surgeon hesitates to operate on the neurasthenic, knowing that psychic shock is worse than traumatic, and its tendency to produce surgical neurasthenia very great. Do all surgeons realize this? Psychitrists tell us, "It is a great mistake to regard either hallucinations or delusions as being groundless. "Their meaning is not always obvious at first, but on careful study they are usually found to have a very definite meaning."

If then, we know the causes and know that many of them are removable; if we get more of the differentiation of the various mental troubles, we are better able to prevent and manage them. "Let me clear the ground, and, I hope, avoid offense, by saying that I am not

a psychiatrist nor assuming that 1 am talking to boys or men of immature minds. On the contrary, 1 am in my own mind genuinely paying you a compliment, if 1 can compliment you, of assuming that 1 am talking to men who have thought on and are interested in these problems. And if 1 can be of any service to you, it is by fortifying you in your determination to continue to think about them and guide yourselves accordingly."

Conclusions

ls it our duty to get more sanitaria care for the indigent tuberculous?

Is it a duty of service to broaden out on Mental Hygiene?

If not then the subjects can be dismissed and we can leave them to some philanthropic individual or Humane Society and organized medicine fails

"A gospel born of love, justice and fidelity, To soothe life's cares, drive grief away and uplift humanity."

NOTE: References were not each time put in quotations, but the author is grateful to the following: Doctors G. T. Tyler of Greenville, Stuart McGuire of Richmond, L. G. Beall of Black Mountain, North Carolina, Olin B. Chamberlain and W. A. Smith of Charleston, and Bates Block of Atlanta.

lain and W. A. Smith of Charleston, and Data Atlanta.

Drs. Ernest Cooper, William A. Smith have proven by facts gotten from all the States as well as by their personal successes that institutional care for the tuberculous needs no defense, it is now accepted as the best mode of prophylaxis and treatment. South Carolina's climate is as good as any other. We have doctors trained in this work, all we lack are the beds. "Loyalty is that quality which prompts one to be true to that which he undertakes."

Where there is a will there is a way.

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., CHARLESTON, S. C.

VASOMOTOR AFFECTIONS OF THE MIDDLE EAR

Prof. G. Portmann, M. D., Annals of Otolaryngology, Rhinology, and Laryngology, March, 1929

For a long time the action of the sympathetic on the labyrinthine circulation, on the one hand, and on the secretion of the endolymphatic fluid on the other, has impressed otologists. "Glaucome" is a term used during these last years by Abeulker and by myself, to designate the hypertension of the endolymphatic fluid.

Lermoyez showed the importance of angiospasm of the vestibular or chchlear branches of the internal auditory artery in certain cases of deafness or vertige. (Angiespasm may also occur in the retina.)

The stenosis of the internal auditory artery, which is brought about slowly, causes a gradual anesthesia of the ear—that is to say, dealness. But when the spasm ceases suddenly; the blood rushes again to the labyrinth which is stunned by it. This too sudden afflux, which in the fingers produces ordinary pain, causes here both the special pain of the cochlear organ, which is the buzzing, and the suffering of the vestibular organ, which is the vertige. Besides that, it abolishes the anesthesia of the ear, i. e., deafness.

It is expedient, from another reason, to oppose this syndrome to Meniere's disease; this sudden paroxyzmic, apopletic and recurrent vertige, which breaks out in the repose of full health and which was so long united with cerebral apopletic congestion. (I have seen cases of vertige not of the Meniere type during the past five months.)

In Meniere's disease, and in Lermoyez's syndrome, the phenomena are the same, but they make their appearance in reverse order.

Vasomotor affections of the middle ear.

Meniere's Disease

Good hearing.
Sudden vertigo.
Sudden deafness and decreasing.
Slow recovery.

Lermoyez's Syndrome

Good hearing. Sudden vertigo. Gradual deafness. Quick return of hearing.

In Meniere's Syndrome there is congestion and labyrinthine overflow and in Lermoyez's Syndrome there is ischemia consecutive to the arterial spasm.

Kobrak ascribes the pathogeny of Meniere's vertigo to antioneurotic fits of the eight pair of cranial nerves, depending on two principal causes; 1. a great instability of the vago-sympathetic system. 2. a local labyrinthine trouble

By experiments with pharmocodynamic substances (atropin, pilocarpin, adrenalin) Kobrak tries to find in each individual case whether it is a question of vagotomy or one of sympathicotony.

The vasomotor stasis of the vestibular artery may cause a giddy sensation apart from any other manifestation. All this agrees with the opinion that vertigo is essentially a phenomena of irritation.

All otologists know that vertigo disappears with the destruction of the labyrinth and that an irritation of the internal membranous ear or of the vestibular nerve is necessary to cause the giddy sentation.

One sees, on the other hand, the reflex vasodilatation which locally accompanies the least irritation of the tympanum and which when this irritation is too violent, also produces vertigo.

These show well the connection which exists between the vertigo and the phenomena of vasodilatation in the area of the labyrinth. There are operations on the internal ear for this vertigo but this vertigo may not be an operation condition but a medical disorder treatable by drugs acting on the vasomotor system through the sympathetic nerves.

From this rapid review of the different affections of the labyrinth by which one has brought forth the pathogenic point of view and the probable existence of vasomotor troubles, one must now separate some precise ideas:

Vertigo, when a sign of vestibular suffering is produced by the sudden vasodilatation which follows the spasm in the syndrome of Lermoyez.

The vertigo which, on the contrary, accompanies a rather pronounced ischemia of the labyrinth, disappears after sympathicectomy, the consequence of which is a vasodilation of the labyrinth.

Tinnitus means cochlear suffering and follows apparently the same rules, being produced either by vasoconstriction or by vasodilation; it may be cured or ameliorated, according to the cause by one provoking in the region of the labyrinth the vascular action contrary to that which has caused it. (This opens a new treatment for tinnitus).

There are, therefore, these two syndromes, Lermoreyez and Meniere, which may, moreover, succeed each other alternatively in the same patient.

According to the indivdual, one observes, in fact, different reactions to the vegetative system under the influence of various causes.

But most often one meets with a hypertonic or parasympathetic syndrome, which, as we have seen, permits us to classify individuals into vagotonic and sympathicotonic.

The most diverse causes will be found as the origin of the vagosympathetic troubles and hence of the labyrinthine vascular spasms. The causes may be either mechanical, endocrapial, toxic or even simply phychic.

The most important causes susceptible of acting on this regulating apparatus are undoubtedly the action of the nervous system and the action of the endocrine glands, above all, the hormone of the spurarenal gland—adrenalin.

(Long ago it was found that Atropin benefitted some cases and Adrenalin others. This discussion gives us at least a basis for further work, better directed than heretofore by the physiopathology of the internal ear. Physiopathology is defined in Lippincott's New Medical Dictionary—I. F. T.).

......

SOCIETY REPORTS

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, FEBRUARY 26TH, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors: A. E. Baker, Jr., Banov, Beach, Buist, Burbage, Burn, Byrnes, Cain, Cannon, Chamberlain, Jackson, F. B. Johnson, Kollock, Lynch, McCrady, McInnes, Mitchell, Mood, E. F. Parker, Pearlstine, Phillips, Prioleau, Rhame, R. B. Rhett, W. P. Rhett, Richards, Rutledge, Scharlock, S. Simons, W. A. Smith, Speissegger, Taft, Townsend, Wild, R. Wilson, Miles. (36).

Guests: Dr. R. H. Lanning, U. S. N., and Dr. J. P. Palmer, of Charleston.

The minutes of the meeting of February 12th were read and confirmed.

Under Reports of Officers and Committees, the Secretary read a letter from Dr. J. H. Oakley, Surgeon of the United States Public Health Service, in which he directed the attention of the Society to a bill before Congress, the purport of which was to grant a pension to Mrs. Joseph Goldberger, the wife of the late Joseph Goldberger, of the United States Public Health Service. It was moved, seconded and carried that the Secretary be instructed to write a letter to the Senators of South Carolina and the Representative of this District urging the passage of this bill, in recognition of Dr. Goldberger's work in disease prevention.

Dr. J. F. Townsend, Chairman of the Committee to draw up resolutions of respect on the death of Dr. G. F. McInnes submitted the following:

George Fleming McInnes was born at Sullivan's Island on August 21, 1881. He started his education at Miss Clelia Porcher's School on Lamboll Street, going there until he was about eight years of age. When one day Miss Porcher noticed that he was absent, then she remembered that he had not been playing as usual for several days. Upon inquiry, she found that he was sick with an illness that had its start, probably, in a fall from a horse about three months before, when he landed on his feet.

This illness developed into Pott's Disease, which confined him to bed and to a rolling chair for years. But this affliction did not affect his cheerful disposition.

It was while confined to his rolling chair that he invented what is known as the coaster brake of a bicycle, but could get no recognition of the idea or invention.

It was at Mr. William Simons' School for Boys on Broad Street, Charleston, that he received his high school education.

He finally recovered his health sufficiently to run about at thirteen years of age, but he had a recrudescence of his illness, following the death of his mother.

When he could get around again, he helped his father for years in his veterinary work, where he learnt much of comparative anatomy that was of use in later life, both to himself and, in the discussion of medical subjects, to others.

When he was taken to the Medical College of South Carolina in 1904, to be registered, he was physically so small and handicapped that Drs. Austin Ball and Fraser Wilson, looking down at him said: "He is pretty small but maybe we can make something out of him." He received his degree of Doctor of Medicine in 1908.

His life is a potent illustration of the victory of the mental and the spiritual over the physical. We cannot really advance towards better things unless we are so impelled and sustained by higher purposes as not to allow physical limitations to circumscribe our attainments.

So we remember Dr. George Fleming McInnes for what he has done and we mourn him for what he has represented. For years his was nearly the only X-ray machine in Charleston that aided the doctors of this part of South Carolina, when human flesh obscured their vision. His success in X-ray work led to his election as a member of the Radiological Society of North America.

At his Biological Laboratory, besides working out some medical problems, he made for many years most of the Wassermann and biological tuberculosis tests for the doctors in and around Charleston. Also for many years his exceptional skill was frequently called upon for intravenous work of all sorts.

His skill in surgery and in his special work, on genito-urinary diseases, has won for him the respect of those who knew him. He was a member of the Urological Society of South Carolina and a Fellow of the American Medical Association, a member of the South Carolina Medical Society, the South Carolina Medical Association, and of the Tri-State Medical Society.

He was a man of strong convictions, was resourceful and unselfish, and of a pleasing personality. He was emphatic and frank spoken in his opinions and was a sincere friend. He had

a deep sympathy for the poor and his labors among them were extensive.

Success to be enduring must be written in thoughts and in acts of service to our fellow men for it is only in that way that men are remembered in the hearts of those who knew them;

SPARTANBURG

The regular monthly meeting of the Spartanburg County Medical Society was held Friday, April 26th at 8 P. M. at the General Hospital.

Dr. G. E. Thompson read a paper on, "Arterial Hypertension". This paper was discussed by Drs. Gantt, Collins, Bruce, Lindsay, Jeffries, Lancaster. The discussion was closed by Dr. Thompson.

Dr. W. B. Ward of Rock Hill read a paper entitled "Acute Appendicitis". This paper included the symptoms and reasons for rupture and treatment of ruptured appendices.

Both papers were very interesting, and also practical. Three guests were present: Drs. Ward and Desportes, of Rock Hill, and Dr. Bruce, of Greenville, Councillor of the Fourth District.

Dr. E. L. Patterson came in during the meeting and announced that he was leaving Spartanburg to do some work in Texas. Fifteen members were present.

There being no further business the meeting adjourned.

S. O. Black, President,

O. C. Bennett, Acting Secretary.

SPARTANBURG

The regular monthly meeting of the Spartanburg County Medical Society was held Friday, March 22, 1929, at the Spartanburg General Hospital at 8 P. M. About 40 members and visitors were present.

Some very interesting slides belonging to Dr. Kleinschmidt of the National Tuberculosis Association were shown.

Dr. E. T. Newell, of Chattanooga, Tenn., the speaker of the evening, read a very interesting and practical paper entitled, "The Symptoms and Treatment of Head Injuries". Dr. Newell also showed some lantern slides of x-ray films and also of photographs of patients. The paper was discussed by Dr. Mauldin, of Greenville.

Visitors from Greenville, Union, and Tryon were present.

There being no further business the meeting adjourned.

S. O. Black, President. W. M. Sheridan, Sec.-Treas. PROCEEDINGS AT THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, APRIL 23, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors: Allen, A. E. Baker, Jr., Ball, Banov, Beach, Beckman, Bowers, Buist, Burn, Byrnes, Cain, Cannon, Cathcart, Chamberlain, de Saussure, Finger, Heidt, Jackson, F. B. Johnson, Kollock, LaRoche, Lynch, McCrady, McInnes, Maguire, Martin, Mazyck, Mitchell, Mood, O'Driscoll, Pearlstine, F. R. Price, W. H. Price, Ravenel, Rhame, W. M. Rhett, Richards, Rutledge, Scott, W. A. Smith, Taft, Townsend, Waring, I. R. Wilson, Robert Wilson (45).

Guests: Dr. R. H. Lanning and Dr. A. P. Morton, of the U. S. Navy. The minutes of the meeting of April 9th were read and confirmed.

The Secretary presented the application of Dr. J. P. Palmer for membership in the Society by transfer from the Fulton County Medical Society of Atlanta, Georgia. Dr. Palmer's application contained a statement from the President and Secretary of the Fulton County Society showing that he was in good standing. On motion, duly seconded, Dr. Palmer was elected unanimously, by ballot.

Under Reports of Officers and Committees, Dr. G. McF. Mood, Chairman of the Board of Commissioners, made the following report: "Recently a room at Riverside Infirmary has been endowed. The total amount of the endowment is \$25,000.00. On April 11th, those establishing the endowment paid to the Chairman of the Board \$11,-000.00, with the written agreement that the remainder, \$14,000.00, will be paid on or before January 1, 1930. The \$11,000.00 was paid in checks, which were turned over to the Board of Finance, The memorial when complete established will be known as 'The Emma Worrell Lowber Memorial Room'." It was moved, seconded, and carried, that the endowment of the room at the Riverside Infirmary be accepted, and that Dr. Mood be empowered to have executed a deed of trust, the same to be turned over to the Board of Finance.

Dr. R. S. Cathcart, Chairman of the Board of Finance, submitted the following report: "The Board of Finance begs to report that they received on April 12th, 1929, from Dr. G. McF. Mood, Chairman of the Board of Commissions of the Roper Hospital, a check for Eleven Thousand Dollars (\$11,000.00) to be credited to the Emma Worrell Lowber Memorial. The Deed of Trust regarding this Fund we understand will be delivered when the remainder of the Fund (amounting to \$14,000.00) is paid over to the Board of Commissioners. The Board of Finance has in-

vested the \$11,000.00." It was moved, seconded and carried that this be received as information.

Dr. J. W. Burn, Chairman of the Committee on Charity Services, read the report from this committee. (See file "Charity Services"). On account of the lateness of the hour, the President suggested deferring discussion of this report until after the Scientific Meeting.

The Secretary read a letter from Mr. F. O. Bates, Superintendent of the Roper Hospital, inviting the members to inspect a new private department which has recently been opened on the upper floor of the Roper Hospital, in quarters previously occupied by the interne staff.

The Secretary also read a letter from Mrs. A. E. Baker, President of the Womens Auxiliary of the Medical Society, outlining a program of entertainment for the State Auxiliary, and urging the wives of the members of this Society to take part in the entertainment.

At 9:00 P. M. the Scientific Program was called. Under Case Reports, Dr. J. Austin Ball reported a case of spontaneous pneumothorax developing in a young adult, who was apparently in good health. He showed an X-ray picture which proved the correctness of the diagnosis and, in addition, showed that fluid had developed on the affected side.

The Symposium on Tuberculosis was then taken up.

Dr. M. W. Beach read a paper on Tuberculosis in Childhood, and exhibited lantern slides.

Dr. Robert Wilson discussed in a short address the Early Diagnosis of Pulmonary Tuberculosis.

Dr. W. Atmar Smith gave a short talk on Hilus Tuberculosis and reported several cases, exhibiting X-ray pictures of the same.

Dr. Kenneth H. Lynch discussed the pathogenesis of tuberculosis.

Dr. F. B. Johnson presented the newer phases of laboratory procedures in the diagnosis of tuberculosis.

Dr. R. B. Taft, in a short paper, discussed the value of the X-ray in the diagnosis.

There was no discussion.

The Business Meeting was resumed at the conclusion of the Scientific Program.

The President stated that the report of the Committee on Charity Services would now be discussed. Several motions were submitted for the purpose of postponing the discussion. The following, embodying several amendments, was seconded and carried: Moved that the discussion of the Report of the Committee on Charity Services be postponed until the next regular meeting of the Society, and be placed on the program as a special order of business, and that the Secretary be instructed to send to each member of the Society a copy of this report.

Dr. J. H. Cannon, Treasurer, made the following report in regard to Dr. E. H. Barnwell's

dues—he stated that he had written to Dr. Barnwell, but had received no reply. It was moved, seconded and carried that the matter concerning Dr. Barnwell and his dues to this Society be referred to the Board of Censors for investigation and report.

Dr. J. H. Cannon, Treasurer, reported that Dr. H. H. Plowden, who had been dropped for non-payment of dues, had recently paid his indebtedness and was eligible for re-election for membership to the Society. He then proposed Dr. Plowden's name for re-election for membership, and on ballot Dr. Plowden was re-elected.

Dr. C. McF. Mood, representing the Medical History Club, invited the members of the Society to the unveiling of a tablet in memory of Dr. E. L. Jagar. This tablet is being presented to the Hospital by the members of the Medical History Club.

There being no further business, the meeting adjourned.

W. Atmar Smith, M. D., Secretary.

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, MARCH 26, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors: Beach, Beckman, Buist, Byrnes, Cannon, Chamberlain, Jackson, Kollock, Maguire, Plowden, F. R. Price, Prioleau, Rhame, W. P. Rhett, Rutledge, W. A. Smith, Waring, Robert Wilson. (18).

Guests: Dr. R. H. Lanning, U. S. N., and Dr. Prescott, U. S. N.

The minutes of the meeting of March 12th were read and confirmed.

There was no business.

The Scientific Meeting was called at 9:00 P. M. Under Surgical Case Reports, Dr. J. S. Rhame reported a case of mesenteric cyst, successfully diagnosed and removed at operation. The report of the pathologist, however, showed that this cyst was a low grade type of sarcoma.

Dr. Rhame also reported a case of gangrene of the intestine, due to strangulation.

These cases were discussed by Drs. D. L. Maguire, W. H. Prioleau and A. J. Buist, Dr. Rhame closing.

Under Medical Case Reports, Dr. O. B. Chamberlain reported a case of Potts Disease, involving the lumbar spine and resulting in spastic paraplegia, in which, under ten months rest in a Bradford frame, return of motion and sensation had been achieved. This case was discussed by Dr. Prioleau.

There being no further business, the meeting adjourned.

W. Atmar Smith, Secretary

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, APRIL 9, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors: Ball, Banov, Bowers, Buist, Burbage, Byrnes, Cannon, Cathcart, Chamberlain, Deas, Jackson, F. B. Johnson, LaRoche, Lynch, McCrady, Maguire, Mitchell, Mood, O'Driscoll, Pearlstine, Plowden, Prentiss, F. R. Price, W. P. Rhett, Richards, Rutledge, Scott, W. A. Smith, Waring, R. Wilson, Miles. (31).

Guests: Dr. R. H. Lanning and Dr. A. P. Morton, of the U. S. Navy.

The minutes of the meeting of March 26th were read and confirmed.

As no business came up for discussion, the Society took a recess until 9: 00 P. M., when the Scientific Program was called.

The President introduced Mr. Robert O. Jones, of the Gorgas Memorial Institute, who gave an interesting address on Medical Economics.

Under Case Reports, Dr. W. M. Rhett reported a case of Achondroplasia. The infant's mother had the same infection and the baby had been delivered by caesarian section.

Dr. J. I. Waring reported a case of cretinism, and illustrated with a chart the rate of growth and development under treatment with thyroid extract.

These reports were discussed by Doctors Ball, LaRoche, and others.

There being no further business, the meeting adjourned.

W. Atmar Smith, Secretary.

THE RIDGE MEDICAL SOCIETY MEETS

The Ridge Medical Association met the fifteenth of April. Dr. Timmerman exhibited cases of ascitis and lymphangitis which were examined and discussed. Dr. A. R. Nicholson read an interesting paper on the management of normal labor. Dr. Julius H. Taylor gave an instructive address on acute osteo myelitis.

The Society and its guests were entertained at luncheon by the Ladies Auxiliary in the home of Dr. and Mrs. W. P. Timmerman.

Short sketches of some of the deceased doctors of this section were read by Dr. W. P. Timmerman. He also read a short sketch of Dr. J. W. Geiger, who is now living and is about ninety-seven years old.

Notwithstanding the inclemency of the weather the meeting was well attended. Saluda had one hundred per cent attendance. All of the members of the Ladies Auxiliary and of the Society attended.

Our Councilor Dr. Harmon and Drs. H. Wyman and E. W. Barron, of Columbia, met with us and entered into our discussions.

MINUTES

MINUTES

EIGHTY-FIRST ANNUAL SESSION—THE SOUTH CAROLINA MEDICAL ASSOCIATION

Charleston, S. C., May 7, 8, 9, 1929

WEDNESDAY, MAY 8

The South Carolina Medical Association met in the ballroom of the Francis Marion Hotel, Charleston, on Wednesday, May 8, 1929, and was called to order at 9:20 a.m. by the President, Dr. R. E. Hughes, of Laurens.

The invocation was said by the Reverend William Way, D. D., rector of Grace Church, Charleston.

The Honorable Thomas P. Stoney, Mayor of Charleston, delivered an address of welcome, and Dr. Henry P. Jackson, President of the Medical Society of South Carolina, welcomed the Association on behalf of the Society. The addresses of welcome were responded to by President Hughes.

Dr. Hughes then read his President's Address. Dr. Baxter Haynes, Spartanburg, presented to the Association, "In memory of our dead comrades," a gavel made of wood from Orente Province, Cuba, which was received on behalf of the Association by Dr. C. W. Kollock, Charleston.

The report of the Committee on the Sims Memorial was read by Mrs. Daisy Lee Stuckey. On motion of Dr. W. P. Timmerman, a rising vote of thanks was given to Mrs. Stuckey, and the committee was continued indefinitely.

Dr. Roe E. Remington, Director of Laboratory, South Carolina Food Research Commission, Medical College of the State of South Carolina, Charleston, read a paper entitled "Vegetable Food and the Goiter Problem," which was discussed by Drs. Wm. Weston, Columbia; Ben F. Wyman, Columbia; F. H. McLeod, Florence; N. B. Heyward, Columbia; by Dr. Remington; by Drs. Francis L. Parker, Charleston; Sam Orr Black, Spartanburg; T. N. Dulin, Clover, by Dr. Weston and President Hughes; by Dr. E. F. Parker, Charleston, who offered a motion to congratulate Dr. Wm. Weston upon his work in food research and nutrition; by Dr. Black again; and by Dr. Remington in closing. Dr. Parker's motion was seconded and carried.

Dr. E. A. Hines, Seneca, read a paper entitled "Some Observations on First Reported Cases of Malta Fever in South Carolina."

The morning session then adjourned.

AFTERNOON SESSION

The Association met at two-thirty in the same place and was called to order by the President.

The paper of Dr. Hines was discussed by Dr. W. K. Lewis, State Veterinarian and Director Clemson College Livestock Sanitary Department, Columbia; by Dr. H. M. Smith, Director State Board of Health Laboratory, Columbia; by Drs. B. K. McInnes, Charleston; Ernest Cooper, Columbia; T. N. Dulin, York; and by Dr. Hines and Dr. Lewis in closing.

Dr. R. B. Taft, Charleston, showed a movingpicture film on "Osgood-Schlatter's Disease"; and this subject was discussed by Drs. A. J. Buist, Charleston, and J. Warren White, Greenville, and William A. Boyd, Columbia.

A"paper entitled "Peptic Ulcer Observations Based on Ninety-three Cases" (illustrated by lantern slides) was read by Dr. Sam Orr Black, Spartanburg.

Dr. J. H. Taylor, Columbia, made an address on "Certain Surgical Problems of the General Practitioner."

A paper entitled "Review of Findings in One Hundred Cases of Head Injury" was read by Dr. D. L. Maguire, Charleston, and was discussed by Drs. Olin B. Chamberlain, Charleston; T. E. Bowers, Charleston; and J. H. Taylor, Columbia; and in closing by Dr. Maguire.

Dr. J. R. Young, Anderson, read a paper entitled "Some Uses of Magnesium Sulphate in Surgical Practice," which was discussed by Drs. J. S. Rhame, Charleston, and George H. Bunch, Columbia; and by Dr. Young in closing.

Dr. Roger G. Doughty, Columbia, read a paper on "The Diagnosis and Management of Heart Wounds," which was discussed by Dr. LeGrand Guerry, Columbia, Dr. D. L. Maguire, Charleston, and by Dr. Doughty in closing.

The afternoon session then adjourned.

EVENING SESSION

The Medical Association of South Carolina met at eight p. m. in the Victory Theater, with Dr. R. E. Hughes, President, in the chair.

Dr. Walter E. Dandy, John Hopkins Hospital, Baltimore, Md., read a paper on "Early Diagnosis and Treatment of Brain Tumors."

Dr. Henry P. Wagener, Mayo Clinic, Rochester, Minn., read a paper entitled "The Significance of Retinitis in Hypertension."

A motion picture film showing the growth and behavior of cancer cells, secured by the State Cancer Committee, was shown. The evening session then adjourned.

THURSDAY, MAY 9

The South Carolina Medical Association met in the ballroom of the Francis Marion Hotel at ninethirty a. m., with Dr. J. R. Young, First Vice-President, presiding.

A pathological conference was conducted by Drs. Kenneth M. Lynch and Robert Wilson, of Charleston.

Drs. F. H. McLeod and P. D. Hay, of Florence, conducted a surgical clinic.

The paper of Dr. Roy P. Finney, Spartanburg, on "Some Diagnostic and Therapeutic Problems," was read by title.

Dr. W. R. Mead, Florence, read a paper entitled "Aplastic Anemia," which was discussed by Dr. V. P. Sydenstricker, of Augusta, Ga.

The paper of Dr. G. T. Tyler, Greenville, entitled "Tuberculosis of the Stomach, with Report of a Case," was read by title.

Dr. J. Warren White, of Greenville, conducted an orthopedic clinic, presenting cases of obstetric paralysis, congenital deformity of the feet, congenital and pathological dislocation of the hip, etc.

Dr. Hugh Smith, Greenville, presented several cases in a medical clinic.

Dr. Marion H. Wyman, Columbia, read a paper entitled "Foreign Bodies, Including a Revolver Bullet, Obstructing the Urethra," illustrated by lantern slides.

AFTERNOON SESSION

The Association met in the ballroom of the Frances Marion Hotel at two-thirty p. m. with Dr. R. E. Hughes, President, in the chair.

Dr. A. F. Burnside, Columbia, read a paper entitled "Controllable Spinal Anesthesia," which was discussed by Drs. Sam Orr Black, Spartanburg; J. H. Young, Columbia; H. K. Jenkins, Mullins; and by Dr. Burnside, in closing.

Dr. Sam Orr Black, Spartanburg, offered a resolution of thanks to the members of the local medical society and others, as follows:

"Resolved, that the Medical Association of South Carolina express its thanks to the members of the local medical society and especially the local committee on arrangements for the good work they have done in preparation for the meeting of the Association; to the hotels for the courtesies rendered; to the press for the full and fair accounts of the proceedings of our meetings; to the ladies of Charleston for the entertainment provided for the visiting ladies; to Dr. Kenneth M. Lynch and R. S. Cathcart for securing the moving pictures showing the growth of the normal cell and the cancer cell; to Dr. C. W. Kollock for securing the privilege of the use of the country club by visitors; and to all others who

have participated in making the meeting successful,"

The motion to adopt this resolution was seconded and carried.

Dr. H. W. deSaussure, Charleston, read a paper on "Toxemia of Pregnancy," which was discussed by Drs. L. A. Wilson, Charleston; R. E. Seibels, Columbia; J. F. Townsend, Charleston; and by Dr. deSaussure in closing.

Dr. R. E. Seibels, Columbia, read a paper entitled "History of the Vaginal Speculum," which was discussed by Drs. L. A. Wilson, Charleston, and J. Van de Erve, Charleston.

Dr. J. Van de Erve, Charleston, read a paper entitled "The Physiology of the Kidney, with Clinical Application."

Installation of President

President Hughes asked Dr. Seibels and Dr. deSaussure to conduct the President-Elect, Dr. C. R. May, to the chair.

Dr. May: I am very happy and filled with gratitude to all of you for your having elected me to the highest honor that this society can confer upon a member of it. I do not know how to express my appreciation. I have been coming to the South Carolina Medical Association for thirty-two years and have seen it grow from a small gathering of earnest workers to this large and creditable body. I assure you that to the best of my ability I will cooperate with you in every way possible to continue the work of this Association, and I hope that I shall see each one of you in Florence next year.

President Hughes: I present to you this gavel, sir. The society is delighted to have it in the possession of such a man and delighted to see a face that is more pleasing than that of the past president.

Secretary Hines: We have a member over here, Dr. S. T. D. Lancaster, of Spartanburg, who tells me he has been coming for fifty years. Dr. Lancaster, will you please stand up?

Dr. Lancaster: I am not much of a speaker, sir. I see progress, sir, I see great progress. I see some things we never thought of seeing, and it is always a delight for me to come and learn from the younger men how to live, how men ought to live. We have had character here all our lives; we have character here in this association today unsurpassed by other states where I have had the opportunity of attending medical associations.

President Hughes: We are glad to have you with us today, Dr. Lancaster, and we appreciate your faithfulness to organized medicine.

I see Dr. Jackson, President, Medical Society of South Carolina and want to say, although we have expressed our thanks publicly, that we do feel very grateful because Charleston, as it always does, has treated us finely. It could not be better, and if you had had a good president, sir, there is no telling what it would have been.

Dr. H. P. Jackson: I appreciate what you say, Mr. President, and am very glad for my good fortune in being present when we have this meeting in Charleston. We are very grateful for your kind expressions, sir, and we are glad you have enjoyed being with us in Charleston.

There being no further business, the Association adjourned sine die.

MINUTES—HOUSE OF DELEGATES—THE SOUTH CAROLINA MEDICAL ASSOCIATION

Charleston, S. C.

TUESDAY, MAY 7, 1929

The House of Delegates of the South Carolina Medical Association met in the ballroom of the Francis Marion Hotel, Charleston, on Tuesday, May 7, 1929, at eight-forty p. m., and was called to order by the President, Dr. R. E. Hughes.

Dr. J. T. Taylor, Adams Run, Chairman, presented the report of the Committee on Credentials.

On motion of Dr. E. A. Hines, Secretary-Treasurer, Dr. J. R. McCormick was seated as the delegate from Bamberg County.

President's Address

Dr. R. E. Hughes, Laurens

Gentlemen of the House of Delegates, your distinguished secretary (and I say that advisedly) has been so used in the past to having the president make a speech that he has me down for an address. That is very kind of him, but my repertoire is very, very limited. I have very little ammunition, and all I have I am trying to save for tomorrow. The truth of the business is that to make a speech you have to get up on your legs, and you have to have language and sometimes liquor. I have not either. Therefore the speech will be dispensed with, except to say in passing that in my mind the most important thing for the medical profession in this and other states is organization. If you remember how many organizations are being started by laymen to get a cheaper grade of medical care and how the State is rather infringing upon the doctor, you will realize that unless we organize we shall be owned by the layman and probably hired by him. It is a very distasteful thought. If organization ever had a time it is now; everything that has succeeded has been organized; it is a day of organization. We must stand together fairly and squarely and give justice; the public expects it and will require it. That is all I have to say tonight.

Dr. E. A. Hines read his report as Secretary-Treasurer. On motion of Dr. C. F. Williams, Columbia, the report was adopted and a vote of thanks was given to Dr. Hines for his splendid report.

Dr. S. E. Harmon read a report of the Council and then made the following supplementary report:

Report of Council

Dr. S. E. Harmon, Chairman

Your Board of Councilors met this afternoon, and nothing of a great deal of interest came up. There seems to be a general condition of harmony prevailing over the state.

We would like to call attention to the Journal. Occasionally someone personally offers some criticism to me. We think that the Journal is improving from time to time, and we think at the present time we have as good a journal as there is in any state of our size and population. Each time that I have had a little personal criticism referable to the Journal I have made this statement—that we, the medical profession, are the ones to make the journal. Paper will carry whatever you place upon it, and unless the men cooperate and produce the material to make a journal of course it can not be done.

We wish to call attention to the fact that within the last two years our Secretary-Editor has been able to increase the advertising income to the extent of about \$300. That is steadily increasing.

Your Board of Councilors also discussed in their meeting the financial condition with reference to paying the expenses of the two delegates to the American Medical Association, which meets, as you know, on the Pacific Coast. Nothing definite was done about that. The suggestion was made that probably some of the men are going anyway and if so, if we knew who they are, we could elect them as delegates to represent the Medical Association of South Carolina and it would not cost us as much as it would otherwise. Again, the subject was discussed of the advisability of selecting probably some man who is a railroad surgeon and who might get his transportation free. I just mention that because if there is anyone who contemplates going such a scheme might be worked out.

A word about organized medicine. You will note from our reports that a large percentage of the men in the different counties are eligible that are not members of any association. We have put forth feeble efforts and as much as we thought we could have tried to stimulate more interest, but up to the present time we have not succeeded very well.

Another subject came up for discussion that has been discussed before—free clinics at different points in the state sponsored by some lay organization that we think should be handled by the

medical profession. It was suggested that each county association select a committee to meet and work with all organizations seeking work from the medical profession on charity cases. Such work ought to be an should be sponsored by the medical profession, and the profession ought not to permit (if you will accept that word) anyone's being brought in from a foreign county or from any other place into a certain location unless it is with the consent of the local association. We think the family physician should be the judge for his people as to what they need and that it is for him to advise them to whom to go in the event they need special care and attention. The family physician should be in touch with his clientele, and we think that he is the one to first examine his people to find out what they need and to advise them where and how to get such special work as they may need.

This report was discussed by Drs. R. S. Cathcart, Charleston; C. W. Kollock, Charleston; W. P. Timmerman, of Batesburg; and J. S. Fouche, Columbia.

Reports of Councilors

The following reports were presented and accepted:

First District—Dr. J. H. Cannon.
Second District—Dr. S. E. Harmon.
Third District—Dr. T. L. W. Bailey.
Fourth District—Dr. R. C. Bruce.
Fifth District—Dr. J. R. DesPortes.
Sixth District—Dr. C. R. May.
Seventh District—Dr. T. R. Littlejohn.
Eight District—Dr. J. E. Warnock.

On motion of Dr. W. P. Timmerman, the Secretary-Treasurer was authorized to reimburse Dr. C. R. May, Councilor Sixth District, for expenses incurred for attorneys' fees.

Reports of Committees

Dr. Hugh Smith, Greenville, Chairman, presented the program as the report of the Committee on Scientific Work, stating that, in accordance with request of many members, one morning is devoted to clinics. Dr. Smith thanked Dr. Kenneth M. Lynch, Chairman of the Committee on Arrangements, for his help in getting up the program.

The report of the Committee on Legislation was presented by Dr. Marion H. Wyman, Columbia, Chairman, and was discussed by Drs. J. W. Jervey, E. F. Parker, and W. P. Timmerman.

Dr. J. H. Cannon, Charleston, Chairman, read the report of the Committee on Constitution and By-Laws, which was discussed by Secretary-Treasurer Hines, Dr. Kenneth M. Lynch, and Dr. S. E. Harmon, Chairman of the Council. On motion of Dr. Parker, the report of the committee, including the changes in the committees, was adopted.

Dr. G. T. Tyler, Chairman, read the report of the Committee on Health and Public Instruction, which includes a recommendation that the Association meet in Columbia in 1930. Dr. Marion H. Wyman, Columbia, extended an invitation to the Association to meet there. Dr. E. F. Parker, Charleston, moved that the Committee's recommendation be adopted, and this motion was seconded by Dr. Hugh Smith, Greenville, and was discussed by Dr. W. P. Timmerman, Dr. R. S. Cathcart offered a substitute motion that the report and recommendation of the Committee be referred to a committee of five to consider and report to the House of Delegates. The substitute motion was seconded by Dr. S. E. Harmon and was adopted. The President appointed the following as the committee to consider and report on the Committee's recommendation: Dr. F. H. McLeod, Florence, Chairman; Dr. Robert Wilson, Charleston; Dr. W. P. Timmerman; Dr. S. E. Harmon, Columbia; and Dr. Davis Fur-

Dr. George Neel, Chairman, Greenwood, read the report of the Committee on the Study and Prevention of Venereal Diseases, which was discussed by Dr. Marion H. Wyman.

The report of the Committee on Military Affairs was read by Dr. C. W. Kollock, Chairman.

The report of the Committee on Necrology was read by Dr. William A. Boyd, Columbia, Chairman, the members standing during the reading of the report.

Dr. G. McF. Mood, Charleston, Chairman, read the report of the Committee on Medical Education.

Dr. G. McF. Mood, Charleston, Chairman, read the report of the Committee on Medical Education.

Reports

Dr. Robert Wilson, Charleston, President, read the report of the State Board of Health.

The report of the State Board of Medical Examiners was read by Dr. A. Earle Boozer, Colmbia, Secretary.

The report of the Delegates to the American Medical Association was presented by Dr. J. H. Cannon, Charleston.

Report of Special Committee

Dr. F. H. McLeod, Chairman, reported as follows on the recommendation contained in the report of the Committee on Health and Public Instruction:

"The special committee thinks the recommendation is very valuable but believes it unwise to adopt it at this time. The legislature has been fairly attentive to the recommendations of the South Carolina Medical Association and of the State Board of Health, and we believe such a meeting would be unwise. We commend the re-

port very highly. We recommend that informing the members of the legislature be made a local proposition between each county society and its own representative and senator; and we suggest that the Secretary of the State Association notify each county society and ask it to have a meeting to which the senator and representative from that county be invited and at such meeting the county society inform them as to the activities of the State Medical Association and the State Board of Health and present our needs to them."

On motion of Dr. G. McF. Mood, Charleston, seconded by Dr. C. W. Kollock, the report of the special committee was adopted.

Dr. J. H. Taylor, Columbia, the Chairman of the Special Committee on the Sims Memorial, not being present, Secretary Hines asked to have the report deferred until the general session on Wednesday morning.

New Business

Dr. E. E. Epting, Anderson, moved that the House of Delegates adopt resolutions indorsing the work of the South Carolina Food Research Commission and the South Carolina Natural Resources Commission, with special reference to Dr. William Weston's work in food analysis. This motion was seconded and carried.

Secretary-Treasurer Hines read the following telegram:

"Wlliamston, S. C., May 7, 1929. Dr. R. E. Hughes,

Francis Marion Hotel, Charleston, S. C.

I am in bed recovering from two weeks' illness but not well enough to be present. Please present my affectionate regards to the House tonight. This will be the third meeting I have ever missed.

Frank Lander."

Dr. W. P. Timmerman moved that the Secretary be instructed to send greetings to Dr. Lander and regrets that he cannot be present, which motion was seconded and carried.

Dr. Hugh Smith, of Greenville, offered a resolution and moved its adoption, the motion being seconded by Dr. R. M. Pollitzer. After incorporation of an amendment suggested by Dr. Kenneth M. Lynch, the resolution was adopted, as follows:

"Inasmuch as several hours are consumed with

the reading and hearing of various committee reports at the meeting of the House of Delegates, therefore

Be it resolved that in lieu of reading the detailed reports to the House of Delegates all such reports be sent to the Secretary of the State Association one month or more prior to the annual meeting and that the Secretary of the State Association furnish copies to the secretary of each county society, so that the delegates may be familiar with these reports, thereby greatly conserving time and allowing the House of Delegates to devote its energies to constructive measures."

On invitation of Dr. F. H. McLeod, Florence, it was voted to hold the next annual meeting in Florence.

Election of Officers

The following nominations for President were made:

Dr. J. Roddy Miller, of Rock Hill, by Dr. Simpson. Seconded by Dr. Dulin and Dr. W. P. Timmerman.

Dr. G. P. Neel, of Greenwood, by Dr. Blake.

Dr. C. R. May, of Sumter, by Dr. Jennings.

Dr. May was elected on the first ballot.

Other officers were elected as follows:

First Vice-President—Dr. G. P. Neel, Greenwood.

Second Vice-President—Dr. J. B. Johnson, St. George.

(Third Vice-President—Dr. J. F. Davis, Clinton. Secretary-Treasurer—Dr. E. A. Hines, Seneca (re-elected).

Councilors:

First District—Dr. J. H. Cannon, Charleston (re-elected).

Third District—Dr. T. L. W. Bailey, Clinton (re-elected).

Fith District—Dr. J. R. DesPortes, For Mill (re-elected).

Sixth District—Dr. M. R. Mobley, Florence (to succeed Dr. C. R. May, who was elected President).

Seventh District—Dr. T. R. Littlejohn, Sumter (re-elected).

Members of State Board of Medical Examiners:

Dr. J. T. Taylor, of Adams Run, and Dr. Frank Lander, of Williamston, were re-elected to succeed themselves.

There being no further business to come up, the House of Delegates then adjourned sine die.

From Text Books of Over a Decade MEAD'S DEXTRI-MALTOSE

FOR more than twenty years dextrinmaltose has been cited in text books of leading authors on infant feeding. During this period, no reversal of opinion has occured, and the opinions set out by the earlier writers are shared by those of today.

This form carbohydrate in the combination of Mead's Dextri-Maltose is usually



the sugar of first consideration where the infant's diet is one of diluted cow's milk with carbohydrate additions.

For years it has been indicated by physicians both for the routine feeding of well babies, and in corrective diets for the treatment of nutritional disturbances.

MEAD JOHNSON & COMPANY

EVANSVILLE, INDIANA

REPRINTS!

Type used in each issue of The Journal is held for thirty days and in order to get the benefit of this saving, orders should be received within this time.

PROVENCE, PEACE AND MARTIN

Greenville, S. C.

St. Elizabeth's Mospital

Richmond, Va.

School For Nurses

The Training School is affiliated with *Johns Hopkins Hospital* in Baltimore for a three months' course, each, in Pediatrics and Obstetrics. A course in Public Health Nursing is given as an elective in the Senior year at the Richmond School of Social Work and Public Health which is a department of William and Mary College. All applicants must be graduates of a high school or have the equivalent education.



Charles R. May, M. D., President South Carolina Medical Association, 1929-30.

The Journal

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A. HINES, M. D., F. A. C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston, S. C. PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. C. OBSTETRICS AND GYNECOLOGY

R. E. SEIBELS, M. D., Columbia, S. C. $\mbox{$U$ROLOGY}$

W. B. LYLES, M. D., Spartanburg, S. C. ROENTGENOLOGY

T. A. PITTS, M. D., Columbia, S. C.

PATHOLOGY AND BACTERIOLOGY
H. H. PLOWDEN, M. D., Charleston, S. C.

SURGERY

C. B. EPPS, M. D., Sumter, S. C.
EYE, EAR, NOSE AND THROAT
J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C.
DERMATOLOGY

J. RICHARD ALLISON, M. D., Columbia, S. C. GASTRO-ENTEROLOGY AND PROCTOLOGY W. T. BROCKMAN, M. D., Greer, S. C.

NERVOUS AND MENTAL DISEASES

E. L. HORGER, M. D., State Hospital, Columbia, S. C. MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

OUR PRESIDENT, DR. CHARLES R. MAY

Dr. Chas. R. May was born and reared in Yorkville, S. C., the son of Dr. John May and Caroline Raysor May. Like his father, who was a prominent physician and surgeon of Civil War and post-war days, and a member of the House of Representatives, Dr. May has achieved success in the practice of medicine and in other fields of endeavor.

Dr. May was educated in the public schools of Yorkville and Kings Mountain Military Academy, after which he studied medicine at the old Medical College of Virginia and the South Carolina Medical College, from which he graduated in 1897. He joined the State Medical Association immediately and began practice at Blenheim, Marlboro County, later moving to Bennettsville, where he has enjoyed a very large and successful practice. In 1918, Dr. May completed a course in surgery of the throat at the New York Post-graduate School.

He has given special attention to this work since then, although continuing in active general practice. He is on the active staff of the Marlboro County General Hospital in Bennettsville, is a past president of the Marlboro County Medical Society and the Pee Dee (Sixth District) Medical Association, and a member of the Tri-State, Southern, and American Medical Associations. He has faithfully and ably served the Sixth District of the South Carolina Medical Association as Councilor for about sixteen years, from which office he was elevated to the Presidency.

Dr. May is a member of many fraternal orders, a Mason, Knights Templar, Shriner, and was chief of the medical staff of Omar Temple during 1928. He is a past Chancellor Commander of his lodge Knights of Pythias. He is a Presbyterian by faith and a member of the Board of Deacons of the First Presbyterian Church of Bennettsville.

Dr. May was first married in 1899 to Miss Nelle Matheson of Marlboro County to which union there were born five children. He was again married in 1920 to Miss Eloise Wright of Cheraw and Columbia. To this union there have been two children.

Our next president has been a leader in the social, business, and professional life of his community for many years. He is a man of remarkable talent, great personality, and splendid ability. While still very active in practice, he will visit the constituent societies of the State Medical Association, and will, no doubt, have some ideas to offer for the betterment of organized medicine in South Carolina.

SCHOLARSHIPS AT PEDIATRIC SEMINAR

We are informed that there are a number of vacant scholarships from South Carolina at the Southern Pediatric Seminar, Saluda, N. C., the latter part of July and the early part of August. This is a wonderful opportunity to combine serious study with a vacation in one of the most delightful spots in the United States. These scholarships provide sufficient funds to take care of the tuition fees and board for a period of two weeks. It is preferred that applicants come from the smaller towns and rural districts. These appointments are

subject to the approval of the Secretaries of the various State Medical Associations. Applications may be made direct to Dr. D. L. Smith, Registrar, Saluda, N. C.

CONFERENCE OF MEDICAL MEN TO PROMOTE PUBLICITY OF IODINE CONTENT OF SOUTH CAROLINA GROWN PRODUCTS

A wonderful meeting was held at Columbia, June 20, pursuant to a call of Dr. F. H. Mc-Leod of Florence for the purpose of discussing ways and means by which the medical profession could promote the publicity of the high iodine content of our home grown food products. Elsewhere in this issue we give fuller details. The Journal has consistently supported the idea to the effect that the medical profession should be the real leaders in this movement. The evidence appears to be sufficiently conclusive to warrant every doctor in South Carolina in getting solidly behind the whole proposition both from a scientific and commercial standpoint. Too often, scientific discoveries do not receive the full approbation of those who should be the first to acknowledge their value. In this instance we are pleading for a speedy acknowledgement of a great opportunity to serve not only the State but the nation.

ORIGINAL ARTICLES

THE SIGNIFICANCE OF RETINITIS In HYPERTENSION*

Henry P. Wagener, M. D., Section on Opthalmology, The Mayo Clinic, Rochester, Minnesota

The essential hypertension or hyperpiesia of Allbutt is now almost universally recognized as a clinical entity distinct from nephritis. Evidence is accumulating also to show that the more severe and more rapidly progressing types of hypertension have their origin, or at least their earliest manifestations, in a diffuse lesion of the vascular system of which the renal involvement is only a part and not, as earlier supposed, the cause. Changes in the brain, heart, and retina play a prominent part in the symptomatology of the severe types of hypertension. The lesions in the retina are readily accessible to study and afford valuable information for differential diagnosis, for the observation of the progress of the disease, and for prognosis. From a somewhat more theoretical view point, they offer valuable suggestions on the pathogenesis of the cerebral and renal complications of hypertension.

The basic lesion observed in the retina in cases of hypertension, around which all the other opthalmoscopic observations can be grouped, clinically has been termed retinal arteriosclerosis. The clearest and most universally applicable description of the opthalmoscopic evidences of sclerosis of the retinal arteries is to be found in the writings of Gunn, who described them in cases of general arteriosclerosis at a time when the sphygmomanometer was not in general use. The retinal branches of the central artery of the retina are in reality small arteries or arterioles, and sclerosis in them can readily be shown, in studies by biopsy and at necropsy, to be more closely associated and more comparable in degree with sclerosis of the small arteries and arterioles throughout the body than with sclerosis of the larger vessels. It is of interest, however, that in cases of progressive (malignant) hypertension, the clinical degree of sclerosis of the retinal arterioles corresponds closely with the estimated grade of palpable peripheral sclerosis which is considered to be hypertrophy of the wall of the artery rather than atheroma.

It is obvious that, particularly as a result of local inflammatory lesions, there may be present in the arterioles of the retina sclerosis which is not to be looked on as a part of diffuse sclerosis of the arterioles of the body. In most cases it is possible to differentiate these types of sclerosis. If the hypertension type of sclerosis alone is considered, it is probable that the statement of O'Hare and Walker, based on clinical observations, is correct: sclerosis of the retinal arteries always indicates hypertensive disease, whether or not the blood pressure is found to be elevated at the time of examination. Their views are supported by the results of study in a group of 137 cardiac cases studied during life and at necropsy by Yater and Wagener.

The frequency with which sclerosis of the retinal arterioles is found in patients with hypertension depends largely on the group studied. Thus of 200 unselected cases of hypertension, in many of which the high blood pressure was discovered only incidentally, there was sclerosis of the retinal arterioles in 58 per cent. In sixty of these cases, symptoms referable to the hypertension were present; in 70 per cent of them, and in more than 90 per cent of another group of cases in which death occurred from hypertensive cardiac disease, there was sclerosis of the retinal arterioles. In other cases which it has been possible to observe over longer periods, it has been demonstrated that appearance of or increase in the severity of the sclerosis has accompanied progression of the hypertension with the development of cerebral, cardiac or renal symptoms. Thus, observation of the retinal arterioles often can afford a means of classifying the hypertension as progressive or non-progressive before the appear-

^{*}Read before the South Carolina Medical Association, Charleston, May 7 to 9, 1929.

ance of serious complications either in the retina or elsewhere in the body.

For the differential diagnosis during life of primary nephritis and primary hypertension, the presence of sclerosis of the retinal arterioles is, I believe, of paramount importance. In glomerulonephritis, prior to the onset of retinitis, the retinal arterioles are normal. If sclerosis of the hypertension type is present in the arterioles of the retina it is present in the arterioles throughout the body. Keith, Wagener and Kernohan have demonstrated this adequately by biopsy of the voluntary muscles, and at necropsy in practically all the organs of the body. The changes in the vessels of the kidney are the same as those in other tissues and the involvement of the glomeruli is definitely secondary too the vascular lesions.

Associated with sclerosis of the arterioles in cases of hypertension, various lesions occur in the retina which have been loosely grouped under the term "retinitis." From among these, several entities can be separated, each of which has somewhat different local pathogenic manifestations, and consequently a different prognostic import. Besides scattered hemorrhages in the retina, there may be thrombosis of the retinal veins, retinitis of arteriosclerosis, retinitis of benign hypertension, and retinitis of malignant hypertension.

From time to time, in a case of hypertension, isolated linear or flame-shaped hemorrhages occur in the nerve-fiber layer of the retina. They are probably caused by transitory rises of local blood pressure and are not of particular significance. Small round hemorrhages in the deeper layers of the retina, however, probably indicate a degree of capillary dysfunction and have much the same significance as the milder types of retinitis.

Thrombosis may occur in the central vein of the retina or in any of its branches. The picture of thrombosis of the central vein is that of the well-known "hemorrhagic retinitis," with hemorrhages diffusely scattered throughout the visible part of the fundus. Thrombosis of a tributary vein is evidenced by hemorrhages, wich a certain amount of edema and exudation in the region drained by the affected vessel. This thrombosis is usually initiated by the pressure of a sclerosed artery on the vein, prob-

ably followed by localized phlebitis. sclerosis is often not severe, and for this reason the prognosis for the life of the patient need not necessarily be immediately serious. certain authors, thrombosis of the retinal veins is considered as an indication of the probable future occurrence of cerebral thrombosis, but this event is often considerably delayed. Thus, in a series of sixty-two cases, Moore⁷ found that in 40 per cent a gross cerebral vascular lesion developed within eight years of the occurrence of the retinal venous thrombosis. In my opinion, the prognosis is dependent much more on the degree of the associated or causative arteriosclerosis than on the largely incidental development of local thrombosis.

If the sclerosis becomes sufficiently severe to interfere with retinal nutrition through capillary stasis resulting from partial obliteration of one or more of the smaller arterioles, punctate hemorrhages and spots of hyaline or fatty degeneration may appear in the affected area. This type of lesion is the true retinitis or arteriosclerosis and was first clearly distinguished from "albuminuric retinitis" by Moore.6 Retinitis which develops as a result of arteriosclerosis is due to actual organic changes in the arterial wall and it is therefore always associated with advanced local arteriosclerosis. Advanced sclerosis of the retinal arterioles usually indicates, similarly, severe sclerosis in the arterioles of the brain. Therefore, the prognosis for life is more serious in patients with retinitis of arteriosclerosis than in those with retinal venous thrombosis. Moore found that in 46 per cent of his cases of retinitis of arteriosclerosis a gross cerebral vascular lesion developed within three years from the time when the retinitis was observed.

Both venous thrombosis and retinitis of arteriosclerosis occur usually in older patients, in the main in patients aged more than fifty years, and are due, as previously stated. to local vascular disease. Retinitis does develop, however, in patients of any age who have hypertension which is not dependent on local organic disease of the retinal vessels and which therefore has a prognostic significance different from that of the associated sclerosis. This retinitis has long been considered to be an indication of the toxemia of associated or complicat-

ing nephritis. Keith, Wagener and Kernohan have shown conclusively, however, that such retinitis often develops while renal function is still entirely adequate. It seems definite that the retinitis is dependent on some factor inherent in the hypertensive disease itself, and can therefore be spoken of as retinitis of hypertension.

Retinitis can occur, under circumstances not yet fully understood, in cases of relatively benign and nonprogressive hypertension. In such cases a few scattered hemorrhages and white patches of cotton-wool type may be seen in the retina. If the patients take prompt measures for the proper management of the hypertension, the retinitis clears up quickly, and there is usually no permanent change in the apparently benign character of the disease. This type of retinitis may therefore be spoken of as retinitis of benign hypertension and it should be regarded merely as a sign of potential danger.

If, however, such retinitis frequently recurs, or instead of clearing up becomes more extensive and is characterized by rather numerous hemorrhagic areas, cotton-wool patches, and localized edema of the retina, the hypertension must be regarded as of a more severe and progressive character and the prognosis for the life of the patient must be guarded. For want of a better term, this type of retinitis is designated "retinitis of severe benign hypertension." It is seen frequently in cases of cardiac decompensation and usually indicates, as was shown in the series studied by Yater and Wagener, that the decompensation is essentially the result of hypertensive cardiac disease.

Retinitis of severe benign hypertension sometimes merges into, or is difficult to distinguish absolutely from, the last and prognostically the most serious type of retinitis seen in cases of hypertension, namely, retinitis of malignant hypertension. The classification of hypertension as malignant often depends entirely on the presence of this type of retinitis, for it may appear when the patient is in apparently excellent condition with the exception of the elevation of blood pressure. The picture of retinitis of malignant hypertension is essentially that of the classic albuminuric retinitis, which included both the retinitis of

malignant hypertension and that of chronic glomerulonephritis. Retinitis of malignant hypertension is distinguished from retinitis of benign hypertension by the presence of edema of the disk; it is distinguished from retinitis of chronic glomerulonephritis by the presence of the hypertension type of sclerosis of the retinal arterioles. Its prognosis with regard to the life of the patient is invariably bad; seventy-three of our eighty-one patients died within four years and only three lived more than eighteen months after the observation of the retinitis.

From the studies of Keith, Wagener and Kernohan, it seems definite, clinically and histologically, that retinitis of malignant hypertension is associated with diffuse sclerosis of the arterioles and not with nephritis. The question of its pathogenesis is, then, of considerable interest. An outstanding feature of the retinitis, especially in its early stages, is the marked attenuation of the arterioles. This attenuation apparently is due to active constriction and not to organic sclerosis of the wall of the vessel, as it may disappear in the regressive stages of the retinitis. Volhard believes that, both in malignant sclerosis and in glomerulonephritis, the edema of the retina is due to local ischemia and increased permeability of the capillary walls resulting from spastic contraction of the arterioles, and he believes, therefore, that the term, angiospastic retinitis, should replace that of albuminuric retinitis. I-lis conception of the mode of onset of the retinitis is probably correct.

That active constriction of the arterioles precedes the onset of edema and hemorrhage in the retina can be demonstrated most readily in cases of toxemia of pregnancy. Rapid rise of blood pressure in a case of so-called nephritis of pregnancy is usually accompanied by visible general and localized spastic constriction of the retinal arterioles. It is possible, of course, that similar spastic constriction of the arterioles throughout the body, and not true nephritis, is the cause of the elevation of blood pressure. If the toxemia is controlled in its early stages by conservative or radical treatment, the constriction rapidly disappears and the retinal arterioles regain their normal appearance. If the toxemia is not controlled, however, edema and hemorrhage appear in the retina, usually at the points of maximal constriction of the arterioles. In cases in which constriction of the arterioles persists sufficiently long to cause definite retinitis, sclerosis of the arterioles develops apparently as a result of ischemia of the wall of the vessel through constriction of the vasa vasorum, or, as Volhard believes, from the toxic action of substances produced locally in the poorly nourished tissue. Such patients seldom recover completely from the toxemia and are left with more or less progressive hypertension which may ultimately lead to death from cerebral hemorrhage; in the kidneys, at necropsy, only sclerosis of the vessels is found.

An interesting comparative study of the retinal arterioles and capillaries of the nailfolds was carried out by Haselhorst and Mylius in a case of rapidly developing eclampsia. When the constriction of the retinal arterioles became marked, there was definite stasis of the blood in the capillaries of the nailfolds. Shortly after the appearance of edema and hemorrhage around the most markedly constricted arteriole, a convulsion occurred and labor was induced. The condition of the arterioles and capillaries rapidly returned to normal. It is probable that the convulsions were due to constriction of the cerebral arterioles, with capillar stasis and consequent edema of the brain.

It seems obvious, then, that spastic constriction of the arterioles is a significant factor in the causation, perhaps, of the hypertension itself and certainly of many of its symptoms and complications. The difference in the clinical picture and prognosis of retinitis in benign and in malignant hypertension probably depends on the degree and persistence of the angiospasm.

In connection with the work of Adson and Brown in the surgical treatment of Raynaud's disease, it has been possible to observe definite dilatation of the retinal arterioles following cervicothoracic sympathetic ganglionectomy. This emphasizes the significance of the sympathetic system in the maintenance of the normal caliber of the arterioles and perhaps points to the possibility of the control of progressive hypertensive disease through surgical intervention.

Bibliography

- 1. Adson, A. W. and Brown, G. E.: Raynaud's disease of the upper extremities. Jour. Am. Med. Assn., 1929, xcii, 444-449
- 2. Allbutt, T. C.: Diseases of the arteries; including angina pectoris. New York, MacMillan, 1915, 2 vol.
- 3. Gunn, Marcus: On ophthalmoscopic evidence of general arterial disease. Tr. Ophth. Soc. U. Kingdom, 1898, xviii, 356-381.
- 4. Haselhorst, G. and Mylius, K.: Zur Frage der Gefasskrampfe bei Eklampsie. Zentralbl. f. Gynak., 1928, lii, 1180-1189.
- 5. Keith, N. M., Wagener, H. P. and Kernohan, J. W.: The syndrome of malignant hypertension. Arch. Int. Med., 1928, xli, 141—188.
- 6. Moore, R. F.: The retinitis of arteriosclerosis and its relation to renal retinitis and to cerebral vascular disease. Quart. Jour. Med., 1916-1917, x, 29-78.
- 7. Moore, R. F.: Retinal venous thrombosis. London, Pulman and Sons, 1924, 86-87.
- 8. O'Hare, J. P. and Walker, W. G.: Arteriosclerosis and hypertension. Arch. Int. Med., 1924, xxxiii, 343-349.
- 9. Volhard, F.: Die Pathogenese der Retinitis albuminurica. Zentralbl. f. d. ges. Ophth., 1929, xxii, 129-136.
- 10. Yater, W. M. and Wagener, H. P.: Ophthalmoscopic signs in diseases of the heart; a study of one hundred thirty-seven cases verified by necropsy. Am. Jour. Med. Sc. (In press).

A PLEA FOR MORE THOROUGH EXAMI-NATION AND STUDY OF ALL PA-TIENTS*

By Samuel E. Harmon, M. D., Columbia, S. C.

It isn't that one man is much more intelligent than another, it's because one is more energetic, studious, and painstaking than the other. We can all do good work if we try and find plenty of trouble if we look for it.

The medical profession reap what they sow. If we do honest, conscientious, scientific work we will be greatly rewarded. On the other hand if we do slip shod unscientific work we will receive what we deserve.

We are very often criticised, and justly so, because we do not do our duty towards our patients. When any one presents themselves to us for information or assistance, lets do our whole duty; obtain a careful history, make a general inspection, look them over thoroughly, and if we do we will often find many abnormalities and much pathology that we least suspected. Always inspect and examine all patients undressed, unless all clothing is removed we can only make a partial examination and many things will escape us. Work them out systematically each organ at the time, commencing at the head and continue downward, look over the scalp, observe the general contour of the head and face, make a gross examination of the eyes, and ears, note the condition of the mouth, teeth, tonsils, and gums. There is much pathology in the mouth, that is often overlooked by the average doctor. Many things are learned by an inspection of the eye reflexes. We know that many symptoms are produced from bad teeth, infected gums, and tonsils. Always examine the nose and throat. See if the nasal passages are open, and if there are any gross visable discharges or new growths, note any swelling or abnormalities about the neck such as enlarged glands or new growth. Enlarged lymph glands may signify many things. One may have a marked hyperthyroidism and only show a very small slightly palpable thyroid gland. Not infrequently one will discover a small or large aneurism about the neck or upper thorax by a careful inspection. Always

go over the thorax carefully with a stethoscope, take nothing for granted. No one can practice medicine successfully without having a good stethoscope always at hand. When we are called into a home or hospital to see some one with any new or acute trouble let's always examine our patient thoroughly especially the heart and lungs. We will often find something that will give us valuable information, being careful to examine all cavities, mouth and throat in children especially. We will often find them with an infection causing high temperature that we are unable to explain, unless a thorough inspection and examination is made of all organs, especially, eyes, ears, nose, mouth and throat. Cultivate yourselves to the use of the ear speculum and you will often find that a child has an infected middle ear, that will explain all symptoms and unless we are systematic in our work the real trouble will be overlooked. Our results will be unsatisfactory and just criticism will be heaped upon the medical profession.

Pain is natures outstanding symptom. That signifies that there is something wrong. It points out to us where the trouble is for our careful consideration not to be relieved until we understand the cause. Dr. John B. Murphy once said that pain was a red flag hung out by nature that indicated danger, and that it was criminal to relieve it until we understand the cause. Suppose one has a joint or muscular pain in the absence of an injury. Such a pain spells infection as an underlying cause. That calls for a careful investigation to find out where and what the infection is, and to be cleared up when found and the suffering will be relieved. Drugs play a very small part in relieving tissues of an infection. The tissues most often infected are the gums, teeth, tonsils, the cervix in the female, the prostate in the male, and the seminal vesicle in the male are often the seat of infection that cause quite a bit of trouble that is often overlooked. An infection is very often picked up from the intestinal tract through the lymphatic and blood stream. We believe that infected gums, tonsils, and teeth are the source of a large percent of heart and kidney conditions, and are the greatest of all causes of so called rheumatism.

Suppose one has an abdominal pain. What

^{*}Read before the Fifth District Medical Society, Chester, S. C., March 26, 1929.

might be the cause of pain in the abdomen? There are many different conditions that may cause abdominal pain, the most common source of abdominal pain is trouble with the appendix. female organs, liver, stomach, urinary tract. intestines, pancreas, and peritoneum, and of course there are many conditions connected with each one of these organs that may be the seat of pain. Any one of these calls for a thorough investigation, and a careful general physical examination, because not infrequently the real cause of what appears to be an abdominal pain is in reality situated in the thoracic cavity. Such as a pneumonia, pleurisy, or some coronary condition, such as angina or thrombosis of the coronary vessels producing an infarct.

There is no investigation completed until the blood and urine have been looked over by a competent man. Urine both microscopically and chemically. A blood Wassermann will often clear up many vague symptoms that we find, and last but not least a rectal examination. Much information can often be obtained from a careful rectal examination. Not infrequently men make quite a reputation for themselves by doing the very thing that has been overlooked, a careful rectal examination.

Suppose a patient presents themselves with a discharge? Any abnormal discharge signifies trouble. Thousands of human lives are sacrificed every year because these symptoms were treated lightly. The proper investigations were not made and proper treatment not instituted.

The early symptoms, of cancer, of the female organs, intestines and rectum as a rule is indicated by some abnormal discharge either serous, purulent, muco purulent, or bloody. Any one or all of these demand a thoroughly working out at once, also any abnormal discharge from the nipple requires investigation for it will often spell cancer.

The average doctor will say that I can't make all these examinations and tests, of course you can't, neither can I, but we can find a competent man who can and will work with us. Much has been, and is being said about quacks exploiting their wonderful work and results upon the public. They exist largely because we are poor doctors.

If we were better doctors and did more honest efficient work for our patients, quacks could not exist very long. Their success is due to our defects, mistakes, and disception. If we ever hope to clear the country of such people, we must clean up in our own ranks first, they are with us, one of us, we must do better work and give our patients better results. When we do this the public will have the proper confidence in us, and we will be in a position to demand respect and a proper reward for our services.

VEGETABLE FOOD AND THE GOITER PROBLEM

By Roe E. Remington, Ph. D., Charleston, S. C. Director of Laboratory, South Carolina Food Research Commission, Charleston, S. C.

The term "goiter" has been very loosely used, that is to say, it has been applied to conditions of hypothyroidism and hyperthyroidism as well as to conditions in which the thyroid gland is simply enlarged without other symptoms of disfunction. From a public health point of view, however, we should limit it to those abnormalities of the thyroid gland which are directly traceable to a lack of iodine or which can be permanently cured or prevented by suitable prophylactic treatment.

Thyroid enlargement has been known since the earliest times, so that we read that it was the practice in China several thousand years ago to feed thyroid substance from animals in the treatment of goiter, and the ancient Phoenecians made a practice of feeding burnt sponges to thyroid patients. Our knowledge of the relation of iodine to the function of the thyroid gland dates from the discovery of Baumann in 1895 that the gland contains an organic compound of iodine, and the work of Kendall in 1914, who isolated from the thyroid glands of sheep, a pure crystalline substance containing 65 per cent of iodine, and which he named thyroxin.

Injection or feeding of Kendall's thyroxin to persons suffering from hypothyroidism has resulted in an increase in the basal metabolic rate, and a general improvement in conditions. Hardlington succeeded in making thyroxin synthetically in the laboratory, and showed the basic ingredients necessary for its synthesis to be tyrosine and iodine.

Translated into popular language, our picture of the thyroid gland is that of a chemical factory which requires as raw materials substances derived from the protein of our food, and iodine. Unlike an industrial plant, which shuts down if raw material is lacking, the gland, in case of iodine deficiency starts to enlarge, apparently in the attempt to collect more iodine

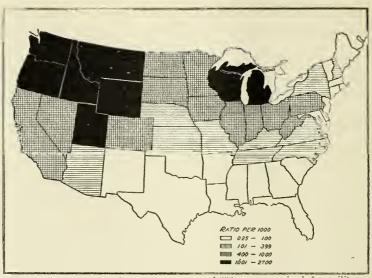
from the blood which supplies it. This enlargement we call simple goiter. The finished product of this factory is a substance (thyroxin or a more active form of thyroxin) which is delivered to the blood, carried by the blood to the most remote parts of the body and acts (to use a familiar term) as a timer for the fundamental activities of the body. If too little of the timer substance is produced, the body machine runs slow—mental and physical processes are less active, body temperature and pulse rate are apt to be lowered, the subject lays on fat, and in extreme cases the skin becomes thickened dry and rough, the eye loses its luster, a condition of myxedema.

The opposite picture is that of a factory whose output of the timer substance is greater than it should be, so that all these effects are reversed—more rapid respiration and pulse, higher body temperature, a tendency to lose weight, increased mental and physical activity, etc. This is the condition in the so-called toxic types of goiter—which can be relieved only by cutting out part of the gland so as to reduce it to somewhere near its normal size. This extra active gland is supposed by most investigators to follow after the simple goiter—that is, a lack of iodine causes the gland to enlarge, and the enlarged gland later becomes too active. This is not the entire picture by any means— I only wish it were sufficiently well understood so that we could assign a definite cause to every kind of goiter.

Goiter is not confined to the human family. Stockraisers in Montana found that in certain seasons a considerable proportion of their lambs and pigs were born dead, a condition which yielded rapidly to the addition of iodine compounds to the ration of the breeding animals. Dogs in Minneapolis and St. Paul have goiter, and the fish in the hatchery near Superior, Wisc., were found to be afflicted with it.

A lack of iodine extending over several generations gives rise to the birth of cretins—children which are born without functioning thyroid glands, and which refuse to grow and develop normally, so that in some European countries we see numbers of curiously misshapen dwarfs. Other effects are the birth of congenital idiots, feeble-minded children, sterility, etc.

^{*}Read before the South Carolina Medical Association, Charleston, S. C., May 8, 1929.



Map snowing ratio of simple gotter per 1,000 men examined for military service in each State of the United States during the World War. The rates are based on a total of 2,510,701 examinations.

(Olesen, Robt., U. S. Pub, Health Repts., 1927, p. 3180)

The studies of McClendon on iodine in water supplies have shown that in those parts of the United States where the soil is largely of glacial origin, the waters are extremely low in iodine and goiter is correspondingly common. Goiter has been found to exist in every country in which studies have been made, although it is more widespread and severe, and has been studied longer in the interior of Europe, notably Switzerland, than any other place. The relative distribution of goiter in the United States can be seen by reference to a map (Plate 1) prepared by Robert Olesen from the results of the examination of drafted men in the recent war, but since goiter is less prevalent among men that among women, and has been found to be more prominent at the time of adolescence. more accurate pictures have been obtained by the examination of high school girls, the results of such examinations made by public health authorities being shown in Table 1, from which we note that in some parts of Michigan and Minnesota as high as 70 per cent of these girls showed definite thyroid enlargement which can be detected by palpation. It is a rational assumption that when any such proportion of children show detectable enlargement, the entire population must be effected to a greater or less extent. Unfortunately simple thyroid enlargement is not usually considered as serious matter, and it is only when we reflect

upon the experience of Europe in areas where iodine deficiency has existed over a number of generations with resulting increase in the number of cretins, congenital idiots, and cases of myxedema and sterility, that we realize what the future may hold for the people in those parts of our own country where iodine is lacking in the environment.

Attempts to remedy this situation by the periodical addition of sodium iodide to the water supplies have been made in some cities. This, of course, cannot affect that part of the population which does not live in cities, or at least very indirectly. Furthermore Olesen (1927) states:

"The iodization of public water supplies, in its present state of development, cannot be recommended for widespread adoption. However, the lack of convincing evidence of the efficiency of iodized water appears to be the result of poorly controlled experimental applications, rather than any inherent defect of the procedure itself.

While the measure can not be recommended for wider use until stronger evidence concerning its value is forthcoming, nevertheless, iodized water should not be condemned as worthless. Rather there is need for more precise experimental work with careful and re-

peated thyroid examinations, both of children as well as adults."

At the suggestion of the Michigan State Board of Health, salt manufacturers have put on the market a salt containing two hundredths of one per cent of sodium iodide, which is being quite largely sold. Opinions as to the efficiency of this method of supplying iodine are various. Resurveys which have been made following the use of this iodized salt for several years, have not shown the expected decrease in the incidence of goiter. Some medical authorities are firmly of the opinion that the administration of inorganic iodides is a real source of danger to those persons whose thyroids are already abnormal, and others are of the opinion that it is not efficient in the prevention of goiter. The problem is not as simple as we had hoped and expected.

TABLE I

Goiter in High School Girls (After McClendon, Physiol. Rev. 1927)

> Per Cent goitrous

0	
Michigan:	
Houghton County 71	
Wexford County 56	
Midland County 33	
Malcolm County 26	
Grand Rapids—Kent County 40	
Grand Rapids—Rent County 1111111 40	,
Minnesota:	
St. Paul 73	3
Average of 13 towns 71	
Montana:	
Fergus County 49)
Carbon 39)
Cascade 34	4
Big Horn2	5
Hill 13	3
Ohio, Cincinnati 40	
Colorado 40	Э
Utah 5-	1
Kansas, Topeka 50	0
Connecticutt, Average 20	9

Dr. J. W. Turrentine of the United States Department of Agriculture has suggested that iodine in the natural combinations in which it

Manitoba _____

occurs in food should be more efficiently used and less readily eliminated from the body than inorganic iodides, and suggests sea-weed as a desirable source. This idea is borrowed from what we already know about many elements, iron, notably, and calcium, neither of which is of any apparent use to the body when given as the mineral salt. So far as we know, the best sources of iron are liver and spinach, of calcium, milk and vegetables.

Dr. J. F. McClendon of the University of Minnesota examined a large number of samples of surface waters from different parts of the United States, and found that in those places where much goiter existed the water contained little or no iodine. But there is practically no place in the country where the drinking water contains enough iodine to provide for the needs of the body (excepting some mineral waters). So McClendon examined samples of vegetable food from goitrous and non-goitrous regions, and found more iodine in foods grown in Main and Connecticut than in those from Minnesota or Oregon, where goiter is common.

Since goiter is comparatively rare in South Carolina, this state is a good place in which to study the occurrence of iodine in human environment. This task was accordingly taken up in the food research laboratory at the State Medical College. There have been examined up to the present time, something over two hundred samples of roots, leafy vegetables, and grains from the state. This is probably a larger number of samples than have been examined by all other workers in the United States. A comparison of some of these results with previously published values from other states is given in Table II. It will be seen that the South Carolina values are enormously greater than any of those reported by McClen-

Nevertheless, South Carolina does have some goiter, and recent surveys have shown that there is more among the colored children than among the whites, at least in Columbia. How shall we explain this if our vegetables contain sufficient iodine to prevent goiter? There is no particular virtue in living in South Carolina unless one eats the foods which are grown there. City dwellers whose food comes mostly

out of tin cans (the cans being filled, perhaps, in Ohio, or Wisconsin) and those, city or country, who through ignorance or poverty have eliminated vegetables from the diet, might almost as well be living in the goiter belt.

The valuable factors in the prevention of goiter have been claimed to be iodine-bearing waters and sea fish. The sea because of its vast size, contains most of the world's supply of iodine, but at that the water of the Atlantic Ocean contains only 23 parts per billion. Sea plants are able to concentrate iodine, and fish feed on these plants, so are relatively rich in iodine. Nevertheless, fish is not a pre-dominant part of the diet in South Carolina, even on the coast. Certainly fish is not eaten with the frequency and regularity that potatoes and "greens" are. Hence, if goiter is rare in this region, it must be the vegetables rather than fish which supply the need.

TABLE II

In the following table, the iodine content of some South Carolina vegetables is compared with results published by McClendon for vegetables produced in California and Oregon. Results are in parts per billion of iodine in the dried vegetable.

A	. Car. Analyses by Remington	Anal	Oregon lyses by Clendon
String Beans	_ 429		29
Beets	_ 233	8.0	
Carrots	_ 135	8.5	2.3
Lettuce	- 754		
Peas	_ 197(ripe)	8.4(gre	en)
Potatoes	- 517		
Spinach	_ 424	26.0	19.5
Soup Vegetables			13.5
Squash (summer) _	_1018		
Sweet Potatoes	_ 135		
Tomatoes	- 273	17.5	
Asparagus	- 350	12.0	
Cabbage	504		
Cucumbers	- 523		
Egg Plant	_ 338		

Salt spray is thrown into the air at the sea shore, dries, and is blown inland as salt-laden dust which contains the iodine of the sea. This dust, washed down by rain, has been supposed to account for all the iodine in the surface waters of inland regions. But this dust also contains all the other salts of the sea in their original proportions, and if the waters of a stream contain from 1/4 to 1/5 as much iodine as does the sea, they should also contain 1/4 or 1/5 as much salt. This has not been found to be the case, so that the iodine in the soils and waters of South Carolina cannot be accounted for on the salt spray theory.

Many granite and other rocks contain iodine, and it is our theory that the iodine in our South Carolina soils is mainly derived from the weathering of the granite rocks of the Appalachian Mountains, but has probably been somewhat augmented by the use of commercial fertilizers over a long period of years. According to Von Fellenberg, Chilean nitrate of soda may contain as high as 0.02% of iodine, but most other fertilizer materials do not contain more than is found in some soils.

Plants are able to take up iodine from the soil solution and accumulate it in their tissues, it having been demonstrated by Stoklasa that the addition of a small amount of sodium iodide increases the iodine content of sugar beets, both leaves and roots. Stoklasa also found that a small amount of iodide (two pounds per acre) increased the yield of the crop, that is to say, the plant makes a better growth if it can obtain a little iodine. No one has ever suggested that plants can have goiter, but it looks as though the plant uses iodine in its metabolism and growth, just as it uses nitrogen, phosphate, or potash. If this is true, it is doubtless also true that the plant builds the iodine into some organic compound. It would be extremely difficult to separate such a compound from plant tissue, which contains an ounce or less of iodine in a car load, and no one has as yet attempted to do it.

In our laboratory we have found that the tops of beets, carrots, and turnips contain more iodine than the roots, and since the leaves are the more active part of the plant, the part where the chemical changes of growth are taking place, I believe this fact to be evidence that the plant is making use of the iodine—is actually building it into the organic structure.

Another interesting field for study lies in comparing the ability of different food crops to take up iodine, and their need for it. The broad leaved plants, spinach, lettuce, turnip tops, etc., are richer in iodine than root crops, like potatoes, beets, etc. Among the roots, Irish potatoes have been found to contain a great deal more than sweet potatoes, or any other root. Cereal grains are very poor in iodine, regardless of where grown. We advocate that the diet of young children, and pregnant and nursing mothers, should contain each day at least one leafy vegetable, (spinach, lettuce, turnip tops, broccoli, etc.), one root vegetable (turnips, beets, carrots, etc.), and a potato, all grown in a region where the supply of mineral elements in the soil is known to be adequate, thus insuring a supply of the necessary calcium, iron, iodine, manganese, etc., during the important formative period of the physical organism.

University of Maryland School of Medicine and

College of Physicians and Surgeons

Requirements for Admission—Two years of college work, including English, Chemistry, Biology and Physics, in addition to an approved four year high school course.

Facilities for Teaching—Abundant laboratory space and equipment. Two large general hospitals absolutely controlled by the faculty and several hospitals devoted to specialties, in which clinical teaching is done.

For catalog apply to J. M. H. Rowland, M. D., Dean, N. E. Corner Lombard and Greene Sts., Baltimore, Md.

SOCIETY REPORTS

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, MAÝ 14, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors: Allen, Beach, Bowers, Burbage. Burn, Byrnes, Cain, Cannon, Cathcart, Finger, Heidt, Jackson, W. H. Johnson, Lynch, McCrady, Mitchell, E. F. Parker, Pearlstine, Plowden, W. H. Price, Prioleau, Ravenel, Rhame, W. M. Rhett, Rutledge, W. A. Smith, Speissegger, Townsend, Waring, Wild, I. R. Wilson, R. Wilson. (32).

The minutues of the meeting of April 23rd were read and approved.

Under Reports of Officers and Committees, Dr. R. S. Cathcart, Chairman of the Committee on the Ross Estate, submitted the following report:

The Committee on Ross Estate begs to report that they received on May 11, 1929, from the Executors of the Ross Estate two checks, one for Forty Thousand Dollars (\$40,000.00) on account of the principal of the residuary estate devised to the Medical Society of South Carolina as Trustees by the said Mary Jane Ross; the second for Ten Thousand Dollars (\$10,000.00) on account of the income from the residuary estate devised to the Medical Society of South Carolina as Trustees by the said Mary Jane Ross, Harry P. Jackson, M. D., President and W. Atmar Smith, M. D., Secretary, executing the receipt for the Society.

On May 11, 1929, this Committee instructed its Treasurer, A. J. Buist, M. D., to deliver to the Board of Finance of the Medical Society of South Carolina a check for Forty Thousand Dollars (\$40,000.00).

As the result of a conference with our attorneys, Messrs. Hagood, Rivers and Young, and upon their advice, we have adopted the following and similar action has been taken by the Trustees of the Presbyterian Hospital:

WHEREAS, the Estate of MARY JANE ROSS holds a ground rent of Fifty-nine and 50/100 dollars (\$59.50) annually issuing out of premises 2510-12 Richmond Street, City of Philadelphia; and

WHERAS, for the purpose of making such distribution in kind, it is agreed that for the purpose of fixing the principal valuation of said ground rent to ascertain the commission payable to the Trustees, such valuation be fixed at One

Thousand Nine Hundred Eighty-three and 33/100 dollars (\$1,983.33).

NOW, THEREFORE, BE IT RESOLVED, that the Medical Society of South Carolina accepts distribution in kind of the said ground rent at said valuation and that the said Trustees under the Will of Mary Jane Ross be requested in distribution of said ground rent to convey the same to the Presbyterian Hospital in Philadelphia, and the Medical Society of South Carolina, or to their respective nominees, as tenants in common.

WHEREAS, by the said Will of the said Mary Jane Ross, it is further provided that her said executors and trustees shall receive a commission for their services at the rate of five per cent (5%) on principal, including ground rent,

THEREFORE, BE IT RESOLVED, That the Medical Society of South Carolina consent and agree that the commissions to the said Trustees on the ground rent to be distributed in kind shall be at the rate of five per cent (5%) upon the valuation herein stated, and that if the personal estate in the hands of the Trustees is insufficient to pay such commissions, together with other proper charges, the Medical Society of South Carolina will pay to the said Trustees one-half of any such deficiency.

RESOLVED, that the proper officers of the Society be authorized and directed to execute such agreements or other instruments, and perform such acts as may be necessary or expedient for the purpose of securing the distribution of said estate in accordance with the directions of this resolution.

Committee on Ross Estate, R. S. Cathcart, M. D., Chairman.

It was moved, seconded and carried that the report be accepted and the action of the committee confirmed.

Dr. R. S. Cathcart, Chairman of the Board of Finance, reported as follows:

The Board of Finance begs to report that they received from the Committee on Ross Estate on May 14, 1929, a check for Forty Thousand Dollars (\$40,000.00), being partial payment on the principal of the residuary estate under the terms of the Will of Mary Jane Ross.

The Board of Finance will invest this amount to the credit of the 'Ross Henry Memorial Fund' according to the terms of the Will of Miss Mary Jane Ross.

Board of Finance, R. S. Cathcart, M. D., Chairman. It was moved, seconded, and carried that this report be received as information.

Dr. W. H. Prioleau brought to the attention of the Society the matter of fees charged by the State Board of Medical Examiners to candidates for licenses who have passed the National Board of Medical Examiners. This created a considerable discussion.

Dr. E. F. Parker moved that it was the sense of this Society that those certificated for licenses by the National Board of Examiners should not be charged a fee for registration in South Carolina; and that the matter of the presence of the candidate before the Board be made optional. This was seconded and carried.

It was moved, seconded and carried that the Chair appoint a committee, composed of Doctors Wilson, J. H. Cannon and R. S. Cathcart, to invite Dr. J. T. Taylor, Chairman of the Board of Medical Examiners, to appear before the Medical Society and explain the attitude of the Board on this question.

It was also moved, seconded, and carried that the Secretary be instructed to write to the various county medical societies setting forth the view of this Society in regard to the matter of charging applicants for licenses who have successfully passed the National Board of Medical Examiners.

Under Miscellaneous Business, Dr. K. M. Lynch directed the attention of the Society to the proposed change in the school day of the Charleston public schools from a single session into a double session. He read a brief essay on the dangers of over-schooling, and proposed the following resolutions, which were seconded and adopted:

WHEREAS: The Medical Society of South Carolina has been informed that it is contemplated that a change is to be made from the single session school day to the double session in the public schools of Charleston, and

WHEREAS: It is understood that this proposed change contemplates a mid-day dinner hour and a return to classes for an additional period of time, and

WHEREAS: This would apparently expose school children to double the hazards of street traffic as at the present, and

WHEREAS: The mid-day dinner of the school children would be taken under hurried conditions and in a probably unhealthful manner, and

WHEREAS: It is doubtful that children should return to school work immediately following a hurried mid-day dinner, and

WHEREAS: Lengthening of the school day would hold the school children longer in the crowded and inadequate grounds and buildings of our public schools, and

WHEREAS: It would prevent growing children from obtaining an optimum of physical re-

laxation and exercise under better environment, and

WHEREAS: It appears that any advantage conceived in the change is outweighed by these factors, which concern the health of growing children, be it, therefore,

RESOLVED: That it is the sense of this Society that the health of the school children of Charleston will not be as well conserved as under the single limited session system as now in force and be it further

RESOLVED: That a copy of these resolutions be forwarded to the Superintendent and Commissioners of Public Schools, and to the Chamber of Commerce and the newspapers of the city.

The Special Order of Business, the discussion of the Report of the Committee for the Investigation of Charity Services, was next taken up. Dr. J. W. Burn, Chairman of this committee, read extracts from his report bearing on the local situation, each member having previously had mailed to him a typewritten copy of this report. The following members of the Society discussed the report from various angles: Doctors: E. F. Parker, Robert Wilson, W. M. Rhett, M. W. Beach, I. R. Wilson, J. S. Rhame, J. H. Cannon, W. A. Smith, and W. H. Johnson. It was moved, seconded and carried that the committee be continued, and urged to formulate a more definite program for the solution of the problem in Charleston.

Owing to the lateness of the hour, it was moved, seconded and carried that Dr. Robert Wilson, the essayist of the evening, be requested to postpone his paper on Coronary Occlusion for the next regular meeting of the Society.

The meeting then adjourned.

W. Atmar Smith, Secretary.

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SOCIETY, HELD AT THE IMPERIAL HOTEL, APRIL 1, 1929.

The meeting was called to order by the President, Dr. J. G. Murray at 8:20 P. M. with about 35 members present.

Reports of clinical cases were then called for. Dr. Tyler reported a case of spinal injury from a gunshot wound and exhibited the patient who had recovered. There was no sensory disturbance in this patient except the calf of the right leg. The patient now walks with a shuffling gait. The injury was complicated by syphilis. Dr. Tyler stated that the dura should have been opened at operation. Discussed by Dr. Brown.

Dr. J. W. White reported a case of tibial lengthening.

Drs. J. M. Fewell and Kluttz reported a case of deep-seated pneumonia. The patient looked pneumonic, had a leukocutosis but nothing could

be found on physical examination; temperature came down by crisis. The pneumonic areas were revealed by x-ray.

The President then called upon Dr. I. H. Grimball, who gave a very informing discussion on Sinus Infections in Children. This infection is very common since the last epidemic of influenza. Dr. Grimball stated that the average text book description of this disease is very meagre. Sinus infection is very often a focus leading to diarrhea, rheumatism, pyelitis and so forth. Infection of the rudimentary ethmoid cells and antra have been reported in early infancy. On seeing a case the child appears acutely ill with high fever and reddened throat, puffy eyes, gastric disturbances, a nonproductive cough and intestinal symptoms. Lymphadenitis is very apt to occur in streptococas a tampon—causing the discharge of pus, etc., as a tampon—causing the discharge of put, etc., through the nose. Pus dropping down the pharnyx causes a very annoying cough and the bacterialaden discharge gives rise to gastro-intestinal upset.

Treatment is conservative and consists of forcing fluid, the administration of purgatives, steam inhalation, chloreton inhalant, etc. Oily fluids are contraindicated. Starchy and sweet foods should be eliminated from the diet; food containing a plenty of vitamine A should be given.

A good X-Ray plate is necessary for diagnosis. Discussed by Drs. Sanders, W. T. Brockman and Mauldin; closed by Dr. Grimball.

Dr. W. S. Fewell was then called upon. He prsented a very interesting talk on Vaccine Therapy, stating that it was the custom in the early days to give immunity to people by causing them to have actually mild cases of disease. Metchnikoff was the pioneer in vaccine therapy and advocated phagocytosis as the whole factor in immunity; this has since been disproven. Dr. Fewell then stated that Ehrlich's side-chain theory is the fundamental principle of immunity, at which time he reviewed the theory. The speaker was unable to commit himself on the value of certain kinds of vaccine therapy. Hektoen and Irons sent out questionnaires regarding stock vaccines and attogenous vaccines and received 1216 answers. Ninety per cent of these physicians had not used any vaccines, and the vast majority had not gotten any positive results; 6 deaths were reported from their use, and 17 cases of asthma were attributed to their use. There were some cases in which patients were made worse. Kolmer has been more successful; his method is to make autogenous vaccines, follows up with skin tests and uses the vaccine to which the patient is most susceptible. Discussed by Drs. Kluttz, Barksdale, J. M. Fewell; closed by Dr. W. S. Fewell.

The president then appointed a Committee on Resolution for the deaths of Dr. W. B. Sparkman and B. F. Goodlett consisting of Drs. G. T. Tyler, L. O. Mauldin and E. W. Carpenter.

There being no further business, the meeting adjourned.

I. S. Barksdale, M. D., Secretary.

THE REGULAR MONTHLY MEETING OF THE SPARTANBURG COUNTY MEDICAL SO-CIETY, HELD AT THE GENERAL HOSPI-TAL, FRIDAY, MAY 31, 1929.

The regular monthly meeting of the Spartanburg County Medical Society was held Friday, May 31, 1929, at 8 P. M., at the General Hospital. About 30 members were present. The minutes of the previous meeting were read and approved.

Dr. J. T. Carter read a paper on, "Iritis". Dr. Carter stated that the ciliary body as well as the iris was nearly always involved and that focal infection, syphilis, and traumatism were the causative factors. The symptoms are pain in the eye, tenderness, photophobia, and lacrymation pupil is contracted, reacts slowly to light, and will be irregular if there are adhesions. The anterior chamber is turbid. Iritis should be differentiated from glaucoma and conjunctivitis. In glaucoma the tension is increased, the anterior chamber is not deep, and in conjunctivitis there is discharge. The instillation of a drop of adrenalin will cause the blood vessels to shrink, and homatrapine will cause the pupil to contract and if iritis has been present long the pupil will be irregular. Care should be used to differentiate iritis from glaucoma, because of the danger of atropine increasing the tension in glaucoma. Early treatment of iritis before adhesions have formed is very important. Instillation of atropine, dionin, cocaine, or holocaine and potassium iodide and mercury internally are very efficacious. Of course atropine is the main drug. The Wasserman should be taken and all foci of infection eradicated.

Dr. Carter's paper was discussed by Drs. Crook and Gray. Dr. Crook stated that he was not in favor of the use of cocaine because it dried the cornea. He said that he relied on adrenalin and atropine to dilate the pupil and break up adhesions and rarely was forced to do an iridectomy.

Dr. Gray stated that adrenalin injected under the conjunctiva was sometimes more successful than when instilled in the eye. In closing the discussion Dr. Carter thanked Drs. Crook and Gray for their discussion.

Dr. Roger Doughty, of Columbia, S. C., gave a very able discussion of hernias in childhood and reported several unusual conditions in children. Dr. Doughty stated that children with hernias were not allowed normal mental and physical growth and that often an hour's coughing would undo the adhesions that had taken months to

form. Eczema sometimes developed as result of wearing a truss. The operation for inguinal hernia in children is easy when small instruments are used. The sac is ligated high up, the wound closed and covered with a collodion dressing and a binder is applied. When a truss is required to keep the hernia in or if the hernia is incarcerated operation is indicated. The mortality from the operation is very small.

Dr. Doughty also reported a case of serious cystadenoma of the ovary with twisted pedicle, a case of hemophilia with severe hemorrhage following injury to the tongue, and a case of arrested development of the colon.

Dr. M. H. Wyman gave a very interesting discussion concerning mistakes that he and others had made in making a diagnosis of urological conditions and showed a number of lantern slides.

Drs. Hames, of Jonesville, Watson Tolbert, of Columbia, and Wyman, of Augusta, were also present as guests of the Society.

There being no further business the Society adjourned.

S. O. Black, President. W. M. Sheridan, Sec.-Treas.

ORANGEBURG COUNTY MEDICAL SOCIETY

WHEREAS: God in His infinite wisdom has seen fit to take from our midst our brother and co-worker, Dr. Jefferson F. Wannamaker on March 27, 1929, and whereas for many years he was a member of the Orangeburg County Medical Society, during which time he rendered, always with cheerfulness and efficiency such services as came in his line of duty.

THEREFORE, BE IT RESOLVED:

- 1. That we bow with humility to the will of our Father.
- 2. That we hereby express our own sorrow because of the death of our beloved friend and our sympathy for the members of his family.
- 3. That a copy of these resolutions be inscribed in our minutes; and published in The South Carolina Medical Journal, and a copy be sent to the family.

Vance W. Brabham, Henry R. Moore, C. I. Green,

Committee.

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SOCIETY, HELD AT THE GRILL, WOODSIDE BLDG., MONDAY, MAY 6, 1929.

This meeting was in the form of a Banquet hold in honor of Drs. Paul H. Ringer, and William P. Herbert, of Asheville, N. C. After the invocation given by Dr. E. W. Carpenter, an excellent dinner was served by the management of the Grill. The attendance was good, approxi-

mately 70 members and guests being present.

Following the Banquet, President Murray then called upon the first speaker of the evening, Dr. Paul H. Ringer, who rendered an excellent discourse on the Medical Aspect of Pulmonary Tuberculosis. Dr. Ringer stated that collapse therapy was a relatively new procedure, in order to obtain the necessary rest for the healing of the lung. Phthisiologists and surgeons have joined hands in this work, and the procedure has been termed physiological amputation of the lung. The indications for lung collapse were mentioned as follows:—

- 1. Chronic Fibroid Unilateral Tuberculosis.
- 2. Tuberculosis bronchopneumonia.
- 3. Profuse haemoptysis pneumothorax is here the method of choice, and is very simple.
- 4. One type of pulmonary tuberculosis absecss if it exists in a lower lobe that had a tendency to fill and empty, fill and empty.
 - 5. Unilateral cavitation.

The contraindications mentioned were:-

1. Tuberculosis laryngitis, nephritis, colitis, or diabetes. If the tuberculosis exists also in the contralateral lung, it is necessary for the process to clear up. The progress should be followed close by X-ray photographs.

Methods of Producing Lung Collapse:

1. External Pneumolysis. 2. Internal Pneumolysis. 3. Revulsion of the Phrenic Nerve. 4. Thoracotomy. Dr. Ringer stated that external pneumolysis had been abandoned for the most part, that internal pneumolysis which is the actual cutting of lung adhesions by means of a special instrument is not done here but is practiced by Watson in Portland, Oregon. Revulsion of the phrenic nerve and thoracotomy are the methods of choice.

President Murray then called upon Dr. William P. Herbert who gave a very exhaustive discussion of the Surgical Aspect of Lung Tuberculosis. This speaker showed a number of lantern slides and X-ray plates describing his methods of dealing with these diseased lungs from a surgical standpoint. Dr. Herbert stated that phrenic nerve revulsion may be helpful with a limited involvement of the upper lobes of the lung, but that where the tuberculosis process is generalized thoracotomy was the proper procedure. Thoractomy if properly done leaves but little disfigurement of the patient, and Dr. Herbert stated that it is often difficult to tell in a dressed patient viewing from the back which side had been collapsed by this method.

The members of the Greenville County Medical Society thoroughly enjoyed the talks and lantern slides and plate exhibitions of their two greens of honor, and a rising vote of thanks was given at the close of the scientific session.

There being no further business, the meeting adjourned.

Irving S. Barksdale, M. D., Secretary

MINUTES

REPORT OF SECRETARY-TREASURER TO HOUSE OF DELEGATES—MAY 7, 1929

By E. A. Hines, M. D., Seneca, S. C.

At the close of the fiscal year December 31, 1928, there were 793 members in good standing reported from 43 counties, a decrease of 11 members over the previous year due to the falling out of two or three smaller societies. These have all been reinstated and a marked increase in membership shown in some of our larger societies at this time. For instance, the Columbia Medical Society has 102 paid up members and only had 84 in 1928. There appears to be an increased interest in organized medicine throughout the State.

During the year by virtue of the prosperous financial condition of the Journal the quarters of the Association and Journal were enlarged so that the County Medical Society and the County Health Department and other organizations may hold conferences in an attractive environment. In addition, efficiency has been enhanced by the installation of a mimeograph and addressograph. These machines will enable the Association to keep in close touch with the membership in many ways. For the first time the plan was tried out of assisting the Councilor of a District to put on a District Meeting by direct cooperation from the home office, as was done in the Fifth District. The success was marked and this may be repeated even in County Societies where good reason exists for help.

During the year there has been a decided improvement in the scope and value of reports for publication in the Journal of the meetings of many county and district societies. I wish to especially commend Dr. W. Atmar Smith, Secretary of the Charleston Society, Dr. Irving Barksdale, Secretary of the Greenville Society, Dr. E. E. Epting, Secretary of the Anderson Society, and Dr. W. P. Timmerman, one of our hard working Ex-Presidents, Secretary of the Ridge Society. Spartanburg, York and several others have given promise of greater things. The delegates may well encourage this work as they return to their home counties. It is an invaluable stimulus to know what our neighbors arc doing scientifically.

An important problem has arisen on the national horizon which affects us as well in South Carolina, that is, the economic status of the medical profession, the cost of medical care, the cost of medical education and the financial rewards of medical practice. A questionnaire is being

sent by the A. M. A. to 25,000 representative physicians investigating these matters and should be responded to promptly. Dr. Robert Wilson of Charleston has been made a member of the national committee on the cost of medical care. We have always had the authority to provide for a committee on medical economics but little has been done about it. The situation is acute now and the time opportune to provide for such a committee.

As your representative, I again served on the State Committee of the American Chemical Society, Dr. R. N. Brackett, Professor of Chemistry, at Clemson College, Chairman, for the purpose of awarding prizes to high school students in the domain of chemical contributions to the advance of civilization notably medical progress. This is a growing and important work.

A general survey of organized medicine in South Carolina leads to an optimistic outlook. President Hughes, the Councilors and other officers of constituent societies, as well as the rank and file of membership have been unusually loyal to all the calls made upon them from my office and for this attitude I am profoundly grateful.

Seneca, S. C., April 10, 1929.

Dr. E. A. Hines, Sec.-Editor, South Carolina Medical Association, Seneca, S. C. Dear Sir:—

At your request, I have audited the books of the South Carolina Medical Association and the Journal of the South Carolina Medical Associaton.

I found the books in perfect balance due to the systematic and accurate records kept of all receipts and disbursements. I attach letter of The Seneca Bank certifying as to the cash balances reported as of Dec. 31, 1928.

Yours truly,
(Signed) Frances R. Richardson, Auditor.
The Seneca Bank

Seneca, S. C. April 11, 1929

Dr. E. A. Hines, Secretary-Treasurer, South Carolina Medical Assn.

Seneca, S. C.

Dear Sir:-

This is to certify that at the close of business on Dec. 31st 1928 there was on deposit in The Seneca Bank of Seneca, S. C. to your credit as Treasurer of the Medical Association of South Carolina \$493.73, as Editor Journal South Carolina Medical Association \$1226.62. You also hold our Certificates of Deposit No. 3928 dated May 14, 1928 and due one year after date for

\$1,000.00 drawing interest at the rate of five	Disbursements		
per cent annum from date.	Salaries	Q e	2 2 2 0 2 0
Yours very truly,	Printing		
(Signed) H. H. Macaulay,	Office Expense		178.60
Cashier	Traveling Expense SecEditor		164.48
Note: Reconciliation of Journal Balance.	Office Equipment		40.50
Balance reported\$1,202.87	Sundries		138.90
Outstanding checks 23.75	Balance in Bank Dec. 31, 1928	1	,202.87
Balance shown by Bank\$1,226.62 F. R. R.	Statement of Assets	,	5,640.45
REPORT OF SOUTH CAROLINA MEDICAL ASSOCIATION	Cash in Seneca Bank Time Certificate of Deposit		
Receipts		\$ 2	2,202.87
Balance in Bank Jan. 1, 1928\$ 433.20	No Liabilities		
Membership Dues 2,172.00			
	NUMBER OF MEMBERS BY	COUN	TIES
\$2,605.20		Paid	Hon.
Disbursements	Allendale		
Printing\$1,172.37 Office Expense\$20.40	Aiken		
Stamps 50.00	Anderson		6
Annual Audit 50.00	Abbeville		2
Traveling Expenses Secretary 204.20	Bamberg		
Expenses Official Stenographer of	Barnwell	. 11	1
Convention 159.06	Berkeley		
Expenses two delegates to Ameri-	Beaufort		
ean Association 300.00	Chesterfield		
Office Expense of President 32.33	Clarendon		
Expenses of Publicity and	Colleton		10
Legislative Committees 123.11	Charakaa		$\frac{12}{3}$
Balance in Bank Dec. 31, 1928 493.73	CherokeeChester		4
	Charleston		4
\$2,605.20	Dorehester		
Statement of Assets	Darlington		
Cash in Bank\$ 493.73 Office Furniture & Fixtures 557.14	Edgefield		
Office Furniture & Fixtures 557.14	Florence	24	1
\$1,050.87	Fairfield	. 5	
No Liabilities.	Greenwood	. 20	
	Georgetown		
	Greenville		5
TOTAL ASSETS OF S. C. MEDICAL ASSO-	Horry		
CIATION AND JOURNAL	Hampton		
Medical Association\$1,050.87	Kershaw Laurens		1
Journal 2,202.87	Lee		1
	Lexington		1
3,253.74	Lancaster		
	MeCormiek		
STATEMENT OF JOURNAL SOUTH CARO-	Marlboro		2
LINA MEDICAL ASSOCIATION	Marion		
	Newberry		2
Receipts	Orangeburg	. 20	1
Balance in Seneca Bank Jan. 1, 1928_\$1,360.78	Oconee		2
Subscriptions1,599.14	Pickens		2
Advertising 2,630.53	Spartanburg		2
Interest on Time Deposit 50.00	Sumter		6
\$5,640.45	SaludaUnion		1
φυ,040.40	Umon	14	1

Williamsburg 8 York 26	 5
. 730 Honorary Fellows63	
793	



LET US COLLECT YOUR SLOW ACCOUNTS FOR YOU.

COMMISSIONS AS LOW AS 25%.

NO OTHER CHARGES.

Endorsed by American Medical Association and State Societies. References: Bradstreets; Chamber of Commerce; Commerce Trust Co. or publishers of this journal. Satisfied clients everywhere. SEND FOR LIST BLANKS

Physicians & Surgeons Adjusting Association

RAILWAY EXCHANGE BUILDING.

KANSAS CITY, MO.

SITUATIONS WANTED

WANTED: Salaricd Appointments for Class A Physician in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan. Chicago. Established 1896. Member The Chicago Association of Commerce.

FOR SALE CHEAP

······

A complete set of Eye, Ear, Nose and Throat instruments. These instruments are modern and in perfect condition.

S. B. KOSER, M. D. Beaufort, S. C.

Lubricant Laxative Antacid

Uniform, permanent, unflavored emulsion of Liquid Petrolatum (U.S.P.), and Milk of Magnesia (U.S.P.), palatable, non-irritating, does not disturb digestion.

Magnesia-Mineral Oil (25)

Accepted for N. N. R. of the American Medical Association formerly Haley's M-O Magnesia Oil

Intestinal lubricant, fecal softener, antacid, emollient, laxative.



FORMULA:

Each Tablespoonful Contains Magma Mag. (U. S. P.) 3 iii, Petrolat, Liq. (U. S. P.) 3 ii

Clinical experience gathered from thousands of physicians by questionnaires suggests its use in Oral or Gastro-intestinal Hyperacidity, Fermentation, Gastric or Duodenal Ulcer. Intestinal Stasis, Autotoxemia, Obstipation Colitis, Hemorrhoids, Pre or Post Operation, Pregnancy, Maternity, Infancy, Childhood, Old Age. As an antacid mouth wash.

Generous sample and literature on request

The
HALEY M-O COMPANY, Inc.
Geneva. New York

The Iournal

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A. HINES, M. D., F. A. C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston. S. C. PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. C. OBSTETRICS AND GYNECOLOGY

R. E. SEIBELS, M. D., Columbia, S. C. UROLOGY

W. B. LYLES, M. D., Spartanburg, S. C. ROENTGENOLOGY

T. A. PITTS, M. D., Columbia, S. C.

H. H. PLOWDEN, M. D., Charleston, S. C.

T. A. PITTS, M. D., Columbia, S. C.
PATHOLOGY AND BACTERIOLOGY

SURGERY

C. B. EPPS, M. D., Sumter, S. C. EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY

J. RICHARD ALLISON, M. D., Columbia, S. C. GASTRO-ENTEROLOGY AND PROCTOLOGY

W. T. BROCKMAN, M. D., Greer, S. C.
NERVOUS AND MENTAL DISEASES

E. L. HORGER, M. D., State Hospital, Columbia, S. C.

MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

SOME SUGGESTIONS FOR ASSOCIATION ACTIVITIES

Cancer

One of the important numbers on the program at the recent Charleston meeting was that of malignant diseases. An organization has been started under the leadership of Dr. R. S. Cathcart of Charleston, Chairman of the State Committee, American Society for the Control of Cancer, Dr. Kenneth M. Lynch of the Medical College, Dr. James A. Hayne, State Health Officer, in cooperation with an organization in every county in the State. The Journal wishes to urge immediate action on this problem. A survey is contemplated to establish the location of cancer cases and the number to be found in the State. To accomplish this it will be necessary for every private practitioner, for all health departments, and all institutions for the care of the sick to cooperate. It appears to be a fact that cancer is on the increase. Its

cause has not yet been determined but a knowledge of the disease in its incipiency gives the physician a tremendous advantage in its control. We bespeak a loyal support of the leaders named above by every member of the Association.

Pellagra

A warning is being issued by the State Health Department calling attention to the marked increase in pellagra in South Carolina. This disease is causing a large number of deaths and to encompass its control the entire profession must be aroused to the situation. There may be yet a difference of opinion as to the cause of pellagra but practically it is a nutritional problem both in its prevention and cure. That the disease is an economic problem in part may be conceded, nevertheless, medical men must be the leaders in handling the situation as it now confronts us. County Health Depart-

ments are active in promulgating information about the disease. The State Health Department has provided a means whereby Brewer's Yeast may be purchased through the Department at a low cost by physicians who care to prescribe it. It must be remembered however that nearly half the State remains without County Health Departments so that in the last analysis it behooves the profession generally to take cognizance of the urgency and devise ways and means of meeting it.

Community Hospitals

The Carolinas have an extraordinary opportunity to develope small town and rural hospitals with the aid of the Duke Endowment. President Hughes in his address at the Charleston meeting called attention to the lack of hospital beds in South Carolina for adequate care of our people. The State Medical Association is in position to aid to a great extent the members of the Association in isolated communities in this matter. A consistent policy of promoting such hospitals by proper publicity would add to the cause an impetus much needed in many places. Marlboro County has recently demonstrated that a magnificent hospital may be built on the above plan and as the first institution of this kind to be aided by the Duke Fund stands out as a pioneer worthy of immediate emulation. President C. R. May has been active in the whole proposition and we hope to publish at an early date full details of the opening of the institution on July 2.

Group Insurance

The State Medical Association as yet has not turned its attention toward one of the important phases of protection of its members in the form of health and liability insurance. Group insurance offers protection at a much lower cost than is possible to the individual as was proven during the World War and by many organizations since that time. This type of insurance may be applied to malpractice as well as life and health. Commercial organizations have now perfected such insurance to the point where it is safe and very reasonable as to cost. The State Medical Association may well look into the feasibility and desirability of this suggestion.

Bureau of Publicity for State Board of Health

One of the important reports to the House of Delegates at the Charleston was that of the Committee on Health and Public Instruction, Dr. G. T. Tyler of Greenville, Chairman. This Committee urged an appropriation of twentyfive thousand dollars by the Legislature to provide for a Bureau of Publicity under the direction of the State Board of Health. The report was referred to a Reference Committee and the final action of the House was to the effect that County Medical Societies meet with their delegations during the coming year and acquaint them with the need for such a Bureau following the information by proper personal appeals on the part of the membership throughout the State. Such a Bureau would enable the State Board of Health to reach a much larger number of people than is now the case. Many other States have succeeded with such a plan.

ORIGINAL ARTICLES

A PLAN TO KEEP WELL

By F. M. Routh, M.D., Columbia, S. C., Member Executive Committee, State Board of Health

Following are some simple suggestions that if followed will certainly insure a more healthful public.

1. PRENATAL

lst. Mothers diet the most essential thing. Prevents decayed teeth and supplies calcium. This is essential because babies teeth begin to develop at six weeks.

Foods: Milk, eggs, particularly yolk. Fresh vegetables, whole grain cereals, and bread, orange and lemon juice. A vegetable or fruit and nut salad daily. Fruits supplying organic calcium. Eat only when hungry. Eat slowly. Chew food a long, long time. Drink plenty of water.

2nd. Teeth: Scrupulous cleanliness. Examination by dentist more essential than at any other life period.

3rd. Elimination: Watch Kidneys. Have frequent examinations, especially for albumin.

Danger signals: Headaches, dizziness, weakness, feet swelling. Time to see the Doctor. Go to bed. Milk diet until symptoms clear up. This followed carefully will save many mothers and babies lives and prevent much invalidism among mothers, and underdevelopment among infants. Also, prevent a great many obstetrical accidents.

Skin: Cleanliness. There is considerable elimination from the skin. Daily baths with good rubs with coarse towels will keep pores open and increase elimination of poisons. Sunlight and fresh air are essential.

Bowels: Laxatives are pernicious, harmful and unnecessary. Constipation is a habit and a bad one. Take one laxative and you'll need another to correct condition caused by the first. They withdraw body fluids that are essential and are more easily left alone than replaced. They also irritate causing rapid movement of

the intestines and *very frequently* encourage appendix abscesses and rupture, a definitely preventable accident. Cultivate and practice abdominal exercises daily. This with a properly balanced diet *will cure* any case of constipation not associated with organic disease. Failure to observe the above fundamental and common sense laws of diet and elimination is the *greatest* cause of ill health and suspected ill health. These errors also lay the foundation for focal infections and organic diseases of heart, kidney and blood vessels.

2. INFANCY

Diet: A mother who has obeyed the fundamental laws of health and hygiene can and will produce the best infants food.

Rickets, undernourishment, Eczema, bowel disturbances are practically unknown in breast fed infants.

Sunlight judiciously applied will prevent rickets and skin diseases. Cow's milk, Cod Liver oil and orange and tomato juice with combination strained vegetable soups and whole grain cereals and egg yolk, of eggs boiled for fifteen minutes will supply essential foods for weaned infants. These foods contain all necessary food elements, vitamines and mineral salts to encourage normal development and prevent constipation and other evils. Habit time for bowel elimination should be begun at an early age.

INFECTIONS: Don't kiss infants:

Infections are rare in infants under six months of age and after that are caused largely by thoughtless kissing on the mouths of babies. These infants have not developed immunity that older children and adults have and are very susceptible to practically all infections. Eye, ear, nose and throat troubles with their attendant serious complications appear usually as exposure is allowed. The ground work for future ill health is often laid in infancy. Toxin-anti-toxin should be given during this period for prevention of diphtheria. The value

of this in the prevention of diphtheria is characteristically shown in New York City's experience. In 1920 before toxin-anti-toxin was used, cases 14,166, deaths 1045. In 1926 after the use of toxin-anti-toxin, cases 7351, deaths 477 Bottles, nipples, dishes, spoons, etc., used in feeding infants should be carefully cleaned and boiled before each feeding. Flies—germs carriers; are great enemies of infants. They should be prevented from contaminating their food, dishes and playthings, and should be kept away from the babies themselves. The same applies to mosquitoes and other insects.

3. CHILDHOOD:

This is the age of the so called diseases of childhood. Measles, whooping cough, mumps, scarlet fever, chicken pox. etc. Try and prevent exposure. Healthy, well nourished children exposed usually have light attacks. Have a doctor and follow his directions.

Diet: Essentially the same as in infancy except more and meats in moderation—once daily. Sweets are essential but should be given after meals rather than between meals, otherwise overeating is indulged in at the expense of essential foods at meal time. Over eating should be discouraged.

Vaccination for smallpox should be given certainly before the child begins school and earlier if cases appear. Even as early as six months. The child should be taught the fundamentals of hygiene during this period, particularly with reference to the care of the body, the teeth, elimination habits, diet, exercise.

4. ADOLESCENCE AND YOUNG ADULT:

This and future ages will take care of themselves if previous fundamentals are obeyed. Character building, sportsmanship, courage, endurance, will power, self-control, honesty, citizenship, etc., should be stressed.

This is a period of excessive energy that must be carefully regulated as regards work, play, etc., otherwise, the crop of physical, mental and moral derelicts will increase. There is no serious trouble with this age provided parents have secured the confidence of their children. This is important.

Typhoid and Tuberculosis sometimes appear. Typhoid is absolutely preventable but it is a community problem. The disease is contracted only by swallowing the germ and the germ comes only from the excreta of patients or carriers. Sanitation and hygiene is the answer. The general death rate will not be materially lowered until good water, clean food and dairy products, and proper disposal of human excreta is required. Typhoid vaccines are good but of secondary importance.

Venereal disease begins its ravages usually in this period. Sex education is extremely important. The home is probably the best school for this. Parents should not shirk their responsibility.

Tuberculosis is frequently avoided by keeping fit. The victims of tuberculosis usually come from the undernourished, the overworked or the overplaying individual. Fresh air, good food, sunshine and plenty of sleep with thought about exposures, will prevent much tuberculosis.

5. YOUNG ADULT TO MIDDLE AGE:

Dangers:

Excessive eating.
Under exercising.
Overwork.
Lack of recreation.
Automobile riding.
Constipation.
Obesity.
Worry.

The above are the principal health evils during this period. Violation encourages lowered resistance and increases the probability of degenerative diseases.

Excessive eating with its attendant evils of overwork, under exercise, too much riding in automobiles, favors constipation, the laxative habit and obesity.

Obesity favors diabetes, high blood pressure, and other ailments that take a frightful toll of life and at the time of the greatest usefulness. Worry from whatever cause, financial or otherwise, play its part in the production of real and fancied illnesses.

6. OLD AGE:

If the machinery has been properly cared for this epoch will be filled with happiness and joy otherwise it is characterized by gloom and misery.

The degenerative diseases—heart, kidneys, blood vessels, are increasing rapidly, so are diabetes and cancer, largely because simple health rules are not obeyed and practiced.

The cost of sickness in the United States has been calculated and estimated by Homer Folks, Secretary, State Charities Aid Association of New York City, as \$3,729,935,376.00. This amounts to \$31.08 per capita. These figures represent the money paid physicians for diagnosis and treatment, dispensaries, hospitals, nursing, medical supplies, sick room equipment, dental care, loss of wages, and the amount expended for treatment by quacks.

His estimation of the loss from future net earnings due to premature deaths he puts at \$12,000,000,000,000.00. These figures are stupendous and the sad part of it is that the total amount of money expended for preventing diseases by public and private sources amounts to only \$76,290,000.00 or .63 per capita.

The experience of the Metropolitan Life Insurance Company definitely proves the value of health instruction for the masses. In 1911 they began to instruct their individual policy holders how to stay well. This was the vision of Haley Fisk who believed that health instruction would be a definitely beneficial economic asset. His vision has been amply verified.

In seventeen years the life expectancy of their individual policy holders increased from 46.6 years to 56.4 years. This is 9.8 years which is considerably better than the expectancy of the general population which was only 6 years. The death rate of 1000 policy holders in 1911 was 12.5 per 1000, and in 1928 it was 8.6.

Harry H. Moore, Ph.D., estimates that \$2,-000,000,000.00 are lost annually by people who suffer from slight and chronic illnesses. The Bureau of Economics Research states that the total income in the United States for 1829 was \$100,000,000,000.00. Fifteen or more billion dollars for sickness and deaths, a great deal of which is preventable, presents an economic problem that needs correction.

What are you going to do about it? Its your responsibility.

1. Who is going to advise you? Some well

meaning but ill advised friend or relative, a druggist, a careless lazy doctor who prescribes without examination, or a good doctor who keeps records, makes careful examinations, and seeks to discover and remove your trouble.

2. Are you going to accept advice and follow directions, or get the hammer and begin knocking?

The Medical profession will always be just as good as the public demands and no better.

Think this over and let your better judgment be your guide. Stop giving your friends and relatives advice for you might be advising the wrong thing.

*THE DIAGNOSIS AND TREATMENT OF FRACTURES OF THE SKULL

Report of 419 cases
Edwart T. Newell, B.S., M.D., F.A.C.S.,
Chattanooga, Tenn

It is my desire tonight to discuss briefly fractures of the skull. These fractures are of such frequent occurence in late years, due to the high powered gas and electric driven machines and machinery that I feel a paper dealing with this subject will be of interest.

The early recognition of the exact condition with which you are dealing, should influence the prognosis, simplify the treatment and reduce the morbidity and mortality. Injuries to the head in some instances are so preceptible and so destructive, as to require only a casual examination to correctly diagnose the condition present. Other head injuries, may be obscure, yet serious, and often escape the most careful examination, unless you always keep uppermost in your consideration of each case—that a patient with a head injury may have little or no outward appearance of injury and present only slight clinical manifestations, yet the brain, its covering, or its vessels may have sustained a severe injury. Brain trauma-manifests itself in various ways and at irregular intervals-from a few hours to weeks or even months following the injury. In other words, the extent of the damage to the scalp and to the skull; as well as the absence of bone injury; does not indicate the extent of the brain

^{*}Read before the Spartanburg County Medical Society. March 22, 1929.

trauma, and is of little value in the prognosis of the average case.

All of you have in your files, records of cases, or can remember many cases that had extensive lacerations of scalp with destruction of bone and loss of brain substance—from minute particles to an ounce or more—yet the patient tecovered and had no post operative morbidity, save an ugly scar and a depression where the surgeon removed the depressed and committed fragments of bone.

In contrast to the above, all of you have had cases that received so small an injury to the head, that the patient did not consider it of sufficient moment to call in a physician or if a physician was consulted, the history of the case made little or no impression on him—the subjective and objective symptoms were almost nil—yet the patient without word or warning, a few hours after consulting the physician, was taken with a convulsion, passed into coma and died before the physician could arrive, or before operative interference could be instituted to save his life.

These two types of cases are classical—the pathology is known and understood by most of you, yet we are not diagnosing and treating all head injuries—in general—as well as we should and why?

First—All types are not clear cut.

Second—We do not have an opportunity to observe cases as we should. They should all be hospitalized and classified.

From a practical viewpoint in the treatment of Head Injuries, there are six major diagnostic points to be considered.

First—Concussion of the Brain.

Second—Contusion of the Brain.

Third—Laceration of the Brain.

Fourth—Increased Intra-Cranial pressure from hemorrhage.

- (a) Sub-Dural.
- (b) Extra-Dural.
- (c) Cerebral.

Fifth—Increased Intra-Cranial pressure from an increase in

(a) Cerebro-spinal fluid.

or

(b) From Edema of the Brain.

Sixth—The location of the bone injury—vault or base. Whether depressed, commin-

uted, or a linear fracture, and if the fracture is *compound*. Also if due to a foreign body.

Concussion and shock are closely allied. All severe head injuries manifest shock at first, and if rapidly fatal—the shock symptoms may merge into the intra-cranial symptoms—no sharp line can be drawn where one ends and the other begins.

Concussion—of the brain is supposed to represent those cases of mild head injuries where the pathology is described as a venous congestion, and the symptoms present a short period of unconsciousness, usually followed by headache, nausea and frequently vomiting. pulse is usually rapid at first—later becomes slow and weak. The blood pressure is lowpatient pale, as in shock, and skin cold. There is no elevation of temperature in "true" concussion—temperature means contusion or laceration. Contusion of the brain may be described as a severe concussion. All of the symptoms noted in concussion are exaggerated—the unconsciousness, is deepened and prolonged; the vomiting is projectile in character—the pulse is weak and slow—the sphincters relaxed—involuntary micturition and defecation: blood pressure low. The pathology is described as a bruising of the brain tissue with hemorrhage of the pia and into the sub-arachnoid spaces. There may or may not be a fracture. Cerebrospinal taps show no blood in concussion; but blood in contusion, the same as in laceration, except less in quantity.

Laceration of the brain as its name implies, consists of actual laceration of the cortex. The condition is serious and is due to fracture of the skull or to gunshot or other penetrating wounds. The hemorrhage may be extra or intra-dural and later produces an increase in the intra-cranial pressure.

The middle meningeal artery is frequently torn, when a fracture line crosses it, producing sub-dural or extra-dural hemorrhage, and later followed by increased intra-cranial pressure. The hemorrhage is usually slow—the patient usually regains consciousness after the injury, only to suddenly collapse later when the intra-cranial pressure is greatly increased, as the result of a large collection of blood causing pressure on the brain.

Unless the dura has been ruptured at the

time of the injury, the clot may remain as extra-dural, and its removal is accomplished by simple trephine operation over the site diagnosed, by either stereoscopic radiograms or by pressure on a definite brain area.

Intra-cranial pressure always follows severe brain trauma and its presence is the most important question to determine in any head in the cerebro-spinal fluid from contusion of the skull can produce hemorrhage or increase in the cerebro-spinal fluid from contusion of the brain. Both conditions increase "intra-cranial pressure," but the chief and most serious condition that increases intra-cranial pressure, is Edema of the brain. This swelling of the brain may increase until it finally encroaches upon the medullary centers, slowing the pulse and respiration. By a compensatory effort the blood pressure is increased. The more the intra-cranial pressure is increased, the more the blood pressure is increased, until the final state of increased intra-cranial pressure is reached: when the respiratory and circulatory centers can not further respond to the stimuli-fail-with rapid pulse, rapid and labored respiration (stertorous or Chevne-Stokes) and death. The heat centers are disturbed early, as the edema of brain increases, with a general rise, until before death the temperature goes to 105 degrees or more. I have never seen this high temperature fail to develop, in a case that terminated fatally, unless the patient died within a very few hours after the injury.

Gunshot wounds of the brain or any foreign body that penetrates the skull, has the same effect as a fracture—laceration—increased intra-cranial pressure—hemorrhage—and death unless the pressure is relieved by spinal tappings; decompression operation; or the edema is checked by intravenous injections of hypertonic solutions of sodium chloride, magnesium sulphate, or glucose.

The location and extent of the fracture is important. Vault fractures are less serious than basal fractures; however many *vault* fractures, from an X-Ray standpoint are clinically basal fractures as well—especially is this so in adults. The fracture lines in the soft flexible skull of the young, do not extend to the base as they do in the more friable bones of the aged.

The basal fractures are more serious, as the

vital centers and nerves are more easily involved, notably medullary compression, cranial nerve palsies, and paralysis. The basal fractures are especially serious because the nose, pharynx and external ear, are often opened into by these fractures, followed by infection and meningitis. In such cases scrupulous cleansing and asepsis, rather than the use of strong antiseptics should be the procedure of choice.

In fractures of the base of the skull—the mortality as a rule increases as you pass from before backwards. The anterior fossa is least; the middle fossa is next, and the posterior fossa is greatest. This is a point worth considering in the prognosis of a given case.

COMMINUTED FRACTURES, as a rule, are more serious than simple ones, provided they occur in the same region. COMPOUND FRACTURES require immediate attention in all cases—as soon as the shock of the injury is over—to prevent infection of the meninges. A compound linear fracture, is a potential source of infection, and should be thoroughly cared for. Since fractures can not always be diagnosed by X-Ray—it is well in closing a supposed simple scalp wound, to look for linear fracture, and to remember that you can wipe the blood from a suture line but not from a fracture line.

GUNSHOT WOUNDS of the brain are usually fatal, although, as in a recent case I treated, the bullet penetrated from side to side, extending through the cerebrum, and did not produce sufficient trauma and edema to cause the death of the patient.

IN THE DIAGNOSIS of a brain lesion following an injury, a well taken history, as in all other instances, is of *first* importance. The history alone, in some cases will lead to the correct interpretation of the condition within the skull.

Second in importance—is the correct interpretation of the pulse rate. The patient at first usually suffers from a shock, and has a rapid pulse with a low blood pressure. The pulse slows as the shock is recovered from and continues to slow, if there is any increase in the intra-cranial pressure. It requires close and careful observation of the pulse rate to appreciate the small and fine changes, indicative of brain pathology. When the pulse is

slow and bounding—fifty or less, you are dealing with a well developed increase in "Intra-Cranial pressure," and this alone is sufficient indication for operative interference, especially after you have observed the case and noted the decided drop in pulse from 120 to 50 in the first twenty-four hours. The blood pressure is usually high, when the pulse rate is low. If the pulse become rapid after having been down to 40 or 50 beats per minute, you have lost the opportunity for operative interference to benefit the patient; for once the pulse again becomes fast, the course to a fatal termination is rapid and certain.

Third—I would place the *Temperature*. The temperature is usually normal or subnormal immediately after brain injuries, but in a mild injury within twenty-four hours it rises to 99 2/5 to 100 2/5. In a *serious* injury the temperature rises rapidly reaching 104 or 105 or even 106 in the first twenty-four hours. This condition with a slowing pulse is indicative of rapidly increasing intra-cranial pressure. Such extreme temperatures are not indications for operative interference; they are quite positive signs of impending death.

Fourth—I would place the Respiration. The respiratory effort at first is practically normal in a mild ordinary brain injury. As the intracranial pressure increases, it becomes labored and slowed. When the pulse is slow and the temperature is high, and the blood pressure high, you will find the respiratory effort labored; stertorous in character; and when death is impending, it will be of the Cheyne-Stokes type. A good clinician can observe closely the pulse, temperature and respiration and tell accurately the progress of his case.

Fifth—I would place Stereoscopic X-Rays, Bilateral views. The extent of the bone involvement, *injury*, can by this method, be estimated; the possibility of hemorrhage determined; the probability of compression of the brain from a depressed fracture ascertained, and more important, the determination of the likelihood of the fracture line extending into one or more of the basal fossae.

Sixth—I would place the use of the mercury manometer. By the judicous use of this instrument, you can tell immediately following a brain injury, whether there has been a contusion or laceration of the brain or sub-dural hemorrhage. And later, you can measure and estimate the brain trauma by the amount of spinal fluid pressure, indicated by the height of the column of the mercury. This diagnostic measure can be transformed, to one of treatment, by allowing the escape of spinal fluid and blood, until the spinal pressure is reduced to a little above normal. In cases where the trauma has been massive do not withdraw much fluid for fear of medullary compression.

Seventh—I would place the use of the Opthalmoscope. The early opthalmoscopic examination of the eye grounds is usually normal. Later in the progress of the brain injury, there is an increase in pressure. You will notice at the inner margin a venous conjection, to be followed, provided the edema of the brain is great, by choke discs. An ophthalmoscopic examination should be made in every case. It is simple, effective and may be the first clue that you have of the increase of intra-cranial pressure.

Treatment—The treatment of concussion of brain, rarely requires more than rest in bed for ten days or two weeks; ice caps to head, liquid diet, saline purgation and possibly the administration of hypertonic solutions of saline, glucose or magnesium sulphate. A few rare cases of "Concussion-Contusion," demand bolder treatment. For relief of pain or restlessness, Strontium Bromide-per rectum or orally, or if pain is severe codeine or morphine.

Contusion and laceration of brain require, in addition to the above treatment, "spinal tappings," in mild cases, and wide "decompression operation" in grave cases. A great many men, however, are able by repeated "spinal taps" where brain trauma has not been too great, to obtain splendid results in cases that were formerly treated by decompression operation. Dr. Sack's to the contrary. Dr. Dandy has little faith in spinal tapping as a curative measure in brain contusion or laceration, but William Sharp, Cushing and others recommend it. The mere fact that the skull is fractured is not an indication for trephining, as was the custom twenty-five years ago.

It is the extent of the BRAIN INJURY that necessitates operative interference. When the brain has been lacerated, bruised and contused to any considerable extent, nothing short of an immediate wide decompression operation will save the patient. If the patient is greatly shocked, it is well to wait until he comes out from shock, before operating.

Operation can be done under local or general anesthesia. Local anesthesia is indicated in all serious cases.

Unless a large extra dural hemorrhage is found under the fracture line, the dura should be opened in all cases, bleeding checked, soft rubber drainage instituted; muscles and scalp closed with interrupted sutures and free drainage encouraged. The rubber tube is removed early, patient is disturbed as little as possible, head is especially not to be shaken in transit to and from the operating room and X-Ray Department. In serious cases the radio-grams should be taken in the patient's room. This can be done without discomfort and without the patient's knowledge. X-Rays are of invaluable service, when the patient has received multiple injuries. I have in mind several cases, where the patient had a fractured pelvis or fractured femur or other trauma, and had it not been for the X-Ray taken of the patient's head, I would not have known for possibly twenty-four hours that the patient had a fractured skull.

CASE REPORTS:

The cases to be reported are taken at random from 419 cases of fractured skull that have been treated in the Newell Clinic in the last twenty years.

Cases No. 1.—16.

Summary

- 1. A thorough examination should be made of all head injuries regardless of how apparently innocent they may appear. Brain injuries often complicate other conditions.
- 2. Hospitalization is essential for further observation and care.
- 3. The History—The Physical—Interpretations of the Pulse, Temperature, Respiration—Radiograms—Mercury Manometer and Opthalmoscopic findings; singlely and collectively, should lead you to a correct Diagnosis—Prognosis—and Treatment.
- 4. The all important question in fracture of the skull is the condition of the brain and

its covering. Treatment should be directed to the relief of the increased intra-cranial pressure—hemorrhage and the edema of the brain.

- 5. Early decompression operation is the only hope in severe brain trauma.
- 6. Basal fractures will always take their heavy toll.

*TUBERCULOSIS OF THE STOMACH WITH REPORT OF A CASE

By G. T. Tyler, Jr., M. D., Greenville, S. C.

A male negro, aged 36, a stone-mason, was admitted to the medical service of the Greenville City hospital, Oct. 17, 1923, complaining of pain in the epigastrium, nausea, and vomiting. The symptoms had lasted several months, gradually increasing in severity, until on admission, he could retain nothing. He was constipated and had hemorrhoids. The family history was unimportant. He was the sixth of seven children.

The past history showed good health until five years ago, when he had 'flu.' One year ago he had fever, supposed to be typhoid; and in the latter part of that year, a Neisser infection. Four months before admission his appendix was removed. Following this operation, he was not relieved; but remained in bed until he was readmitted to the hospital.

Physical examination: A tall slender man, poorly nourished. The general examination was negative except for tenderness in the epigastrium. There was no evidence of pulmonary tuberculosis: no mass in the abdomen. The blood Wassermann was negative: Hb 70%: white cells 5,200: polymorphonuclears 50%: small mononuclears 29%. The Ewald test meal gave a total acidity of 60. Occult blood was present: gross blood appeared in the feces. There was a 72 hour retention of barium in the stomach by X-ray. The urine had pus. There was a shadow in the right ureter thought to be a calculus, though the total phthalein was 65%, and the right kidney pelvis said to be normal.

The diagnosis of gastric ulcer was made, and the patient was given belladonna, bismuth, calcium, and soda. He improved for a time; but

^{*}Read by title before the South Carolina Medical Association, Charleston, S. C., May 9, 1929.

his symptoms returned in a month. He was then transferred to the surgical service. Operation was advised and performed Nov. 26, 1923. Through a right rectus incision the stomach was exposed. There was a mass in the pyloric region occupying about one third of the stomach. Glands were palpable along greater and the lesser curvatures. The organ was movable: the condition thought to be cancer. A resection was done with an anterior Polya anastomosis. Recovery from the operation was uneventful until 3 weeks later, when ascites appeared, and the hemorrhoids returned. These were removed. The ascites disappeared; and the patient left the hospital much better. He had occasional attacks of vomiting. careful in his eating, however, he had no symp-

It was not possible to follow him after leaving the hospital. Some time, about a year, afterwards, I learned from the bureau of vital statistics that he had died in May, 1924 of cerebral hemorrhage.

The specimen of stomach was torn along the lesser curvature during operative manipulation; but no gastric contents escaped. The serous surface was glistening. The mucosa was much thickened and ulcerated. The report from the laboratory was tuberculosis of the stomach; tubercles with giant cells being found. Unfortunately a review of the sections is impossible. They have been lost.

It would be interesting to know whether this was cancer or ulcer with tuberculosis. The thickened mucosa suggests the hyperplastic type with pyloric obstruction resulting. The tearing of the specimen during removal leads one to believe that the wall had been weakened by the process. The later occurrence of ascites suggests that tuberculosis was the underlying cause, though this is not conclusive evidence. It had been planned to remove this fluid at the time the hemorrhoids were operated on; but if had gone down so much that removal seemed unnecessary.

Tuberculosis of the stomach is rare. In 2501 gastric resections at the Mayo Clinic from 1912 to 1915 inclusive, only one case was found. This was supposedly cancer until microscopic examination revealed tuberculosis. Melchior reported 6 cases from Kutner's clinic

in 10 years. In 10,000 autopsies at the Leeds Infirmary, tubercular ulceration of the stomach was found in 3 cases only. In two of these it was due to involvement from without by adjacent lymphatic glands. In 320 partial gastrectomies at the same clinic, no cases were found; but in two a simple chronic ulcer was associated with scattered miliary tubercles throughout the mucosa. In a third case, cancer existed with a lesion strongly suggesting tuberculosis. There were 8 cases in 4,000 autopsies at the Johns Hopkins hospital. mann in 2360 autopsies found 18 cases of gastric tuberculosis. Glaubitt found it 47 times in 2237 autopsies on tubercular patients. J. S. Horsley is authority for the statement that it is present in 2.3% of autopsies on tubercular subjects.

The literature on the subject is not large. The best paper in English is that by Broders of the Mayo Clinic in 1917. He analyzed 308 cases, and reviewed the literature up to that time, adding one case of his own. In a limited survey of the literature since Broders' paper, I have found reports of several additional cases; but was not able to analyze them. It is rather surprising that in the large number of tubercular patients the stomach escapes involvement. These patients must swallow some of the bronchial secretions. One observer has said that it is easier to obtain the tubercle baccilli in the washings from the empty stomach than from the sputum. The germ is a slow-growing one. It resists the action of acid secretions for as long as 12 hours. The motility of the stomach prevents lodgment in one place for a time sufficient to invade the wall. On the other hand the intestine will harbor the germ for long periods—which is given as one explanation of the greater frequency of intestinal as compared with gastric tuberculosis.

If, however, the gastric mucosa be not intact, and delayed motility with slower secretion occurs, then the organism can invade the mucosa, and its association as demonstrated by tubercles and caseous areas, with gastric ulcer or cancer is made possible. Other paths of invasion are the blood stream, the lymphatics, and by direct extension from contiguous tissue. In view of the small number of cases of gastric tuberculosis in pul-

monary patients, one may conclude that invasion of the gastric mucosa by swallowed bronchial secretions is one of the less frequent paths—except of course, in terminal stages. The lymphatic and the blood systems are regarded as the most frequent routes. Each of these has its advocates as to the greater frequency. Extension from perigastric lymph glands has been shown to be a fourth path. In one case, reported by Colp, the caseous extragastric glands had to be removed before the gastric vessels could be ligated. Few of the cases are primary. Broders thought none were proven so, even though no tubercular lesion was demonstrated elsewhere in the body.

The question also arises whether the tuberculosis in the stomach is the original process. From my review of the cases, I gather the impression that tuberculosis is grafted on the ulcer or cancer. Broders concludes that ulcer is the predominating lesion in 80% of the cases. One of the papers reviewed, that by Collinson and Stewart, has as its title: Chronic Peptic Ulcer with Acute Miliary Tuberculosis. How the tubercular process invaded the stomach they are unable to explain, for their patients recovered, and there was no evidence of tuberculosis elsewhere in the body. It could have come from ingested food, or from organisms in the respiratory tract. They conclude that the association is accidental, and that the type of person having gastric ulcer is less commonly the subject of tubercular infection than the general population.

Much experimental work has been done in the effort to produce gastric tuberculosis. It has been accomplished, but with much difficulty and uncertainty.

The rarity of the condition is said by Virchow and Klebs to be due to the small number of lymph follicles in the stomach. Kanzow added to this the intact condition of the gastric mucosa. The degree of acidity appears to make little difference so far as the tubercle bacillus is concerned; but a low, or an acidity makes a favorable nidus for cocci or other organisms. These probably cause a gastritis: an ulcer forms, and tuberculosis is a secondary process.

The condition has never been recognized clinically. The patients have been operated on

for supposed ulcer or cancer; the first evidence being that from the laboratory—unless caseous perigastric glands demonstrate the cause. The types of lesions are: (1) ulcer, single or multiple. (2) Miliary tubercle. (3) Solitary tubercle. (4) Pyloric stenosis. (5) Tumor or nodule. (6) Lymphangitis.

The presence of syphilis may be a factor complicating the diagnosis. We know that giant cells are present also in specific lesions. Hence the importance of demonstrating the presence of the tubercle bacillus in the tissues. Broders' case, in which he demonstrated the tubercle bacillus, had syphilis also.

The treatment is operation, resection being the method of choice. Even in the presence of active pulmonary involvement operation is indicated; for disturbed digestion is an ominous sign in tuberculosis. If resection is not advisable, then gastro-enterostomy should be done in the hope that the patient's condition will improve, and that radical excision can be done later. In one recorded case, the involvement was so extensive that only gastro-enterostomy was done to relieve obstruction. A piece of tissue showed the condition to be tuberculosis. This patient recovered, and was completely restored to health. Lyle reported a case where the patient, an alcoholic, recovered following a resection of the stomach for supposed cancer. The tissue was malignant with tuberculosis. This patient returned two years later with symptoms of intestinal obstruction. The abdomen was opened, and miliary tuberculosis of the intestines and peritoneum was found. The obstruction was from atony. Death occurred in two days.

The prognosis is guarded. Though some patients have lived as long as ten years following resection, they must be kept under observation for fear that tuberculosis, if it has not already done so, will later manifest itself elsewhere in the body.

Bibliography

British Journal of Surgery, April, 1928. Collinson and Stewart.

Surgery, Gynecology & Obstetrics, Nov., 1917. A. C. Broders.

Long Island Medical Journal, Jan., 1916. Norman Philip. Deutsche Med. Wochenschrift, July 9, 1926. Severin, J.

Achives of Surgery, Feb., 1927, Heyd. Annals of Surgery, Aug., 1928, Colp. Mitteil, a. d. Grenzgebiet der Med. u. Chir. 39—1926. Melchior.

Annals of Surgery, Aug., 1921, Beer. Guy's Hospital Report, London, 1925. Hurst. Archiv. fur Klin. Chir. 1924. Willerding.

DISCUSSION, "VEGETABLE FOOD AND THE GOITER PROBLEM" ** REMINGTON

(Paper Published in June Issue)

Dr. William Weston, Columbia: I wish I had time, in the very few minutes allotted to me, to go into this matter as I should like to go into it with you, because I feel that the steps South Carolina is taking to promulgate this knowledge and to develop South Carolina resources are of such extraordinary value that you, the physicians of South Carolina, should be among the first, certainly, and perhaps the very first, to know about these plans, because you will be called on very liberally to help in this matter.

Dr. Remington has shown you the most extraordinary situation in regard to this mineral element so far shown in the world. We do not know that this will be duplicated anywhere, because nature is very strange in the distribution of her elements. We do not know why she distributes them as she does. Take carbon, for instance; if you go to Texas and Oklahoma you find she distributes carbon in the form of oil and natural gas; if you go to West Virginia you find carbon in the form of bituminous coal; go to Pennsylvania and you find it in the form of anthracite; and if you go to South Africa you find carbon in the form of diamonds. We do not understand nor can we explain this peculiar distribution, nor can we explain why nature has put such a peculiar limitation upon these organic elements. We have recently learned that the metabolism of iron depends upon certain other substances. It is certainly true that the metabolism of iodin depends upon other substances which we believe exist only in the foods of South Carolina. But now what great importance does the chemical profession lay upon this matter? This volume I hold in my hand is the most recent publication of the American Chemical Foundation. In this volume is an article by Dr. David Marine, of Columbia University, and the part of the article I shall read to you is the comment of Dr. Julius Stieglitz, of the University of Chicago. This is merely a comment on the work of Dr. Marine among children in Ohio. He expresses it in this way:

Is all this true that Dr. Remington announces? McLendon comes here and runs the test in quadruplicate and says it is true; that he does this same analysis in the laboratory of the University of Minnesota and says it is true; the methods seem to be proper, the results correct. Then I go to Washington and ask the United States Department of Agriculture to send its head chemist here to look into this matter. They say, "We have the data, and we accept them." We go to Chicago and ask the American Medical Association to check it up, and they say they have full confidence in it in every respect and are going to publish it all and indorse it all, because they feel it is the most complete work of its kind being done today. I asked McLendon the question, "What do you think of the equipment of this laboratory?" He said it is the best equipped laboratory of its kind in the United States. When I asked for suggestions he said, "Enlarge it to the point where you can make complete studies." I discussed it with the authorities of the State of South Carolina, and they told me to go ahead; I discussed it with the authorities of the Medical College of South Carolina, and they told us to go ahead. So, gentlemen, you are going to have in the Medical College of the State of South Carolina the most complete laboratory for the study of food in the world. For what purpose? Because this suggests the fact that South Carolina may have many resources. We know some that have hardly been mentioned. We are going to work them out and publish them to the world. In regard to this particular one Dr. Remington has been speaking about, we do not have to publish that; the American Medical Association will pay for every nickel's worth of advertising you ever got and disseminate it throughout the world. The business men throughout the United States will advertise it. Just yesterday, in my office, one of the men who helped organize General Motors said, "If you will let us in on this we will see that South Carolina has the opportunity to produce all the food she can produce, and we will see that is is distributed to the world."

Dr. Ben F. Wyman, Columbia: I had not intended discussing this paper of Dr. Remington's until Dr. Weston a few moments ago asked me to say something about the goiter problem among school children as shown by a recent survey.

At the Department of Health, in Division of School Sanitation, we have been conducting a survey of thyroid enlargement for several months. Up to this time about 20,000 school children in South Carolina have been examined in the 20 counties that have whole-time health

departments. The classification of thyroid enlargement used by these doctors was merely positive or negative, based upon the visual or easily palpable enlarged thyroid gland. We divided the State into 3 groups, namely Coastal, Central and Piedmont. There was a very significant finding in this survey which is in keeping with Dr. Remington's findings of iodin content in Irish potatoes. Dr. Remington found more iodine in the Piedmont group than in the Coastal. We, in turn, from our examinations, found that the Coastal counties averaged about 3% of enlargement, the Central counties about 21/2 % and the Piedmont counties about 2%. These percentages would probably vary on a more complete survey.

Due to the request of Dr. Weston and the Governor, Dr. Robert Oleson, who has been specializing in goiter surveys conducted by the United States Public Health Service, came to this State and helped us make some determinations. The classifications used by Dr. Oleson are as follows: very slight, slight, moderate, marked, very marked and adenoma. The terms used being indicative of amount of enlargement found in thyroid gland. Following out this classification you must realize that if you find a thyroid gland which shows even the slightest enlargement it may have been classified, according to some authorities, as not only an enlarged thyroid but as goiter.

In discussing the question of the location of thyroid enlargment in South Carolina the United States Government has just recently issued a Bulletin which shows that goiter is more prevalent in the mountains of Tennessee than in the plains. The exact opposite is true in South Carolina. We believe this is due to the fact that the mountains of Tennessee are of limestone formation, whereas the mountains of South Carolina are of granite formation.

Just one thing more, as to the incidence in boys and girls and in negroes and whites. The incidence in boys in South Carolina is lower than in the girls, and the white as against the black makes a very striking contrast. The colored are very much enlarged as compared to the white. In other words, the white children of South Carolina, whether boys or girls, have a very slight number of enlargements as compared with the negroes. In our survey we examined with Dr. Olesen about 5,000 cases, and we found the colored girls have the greatest percentage of enlargements. What is the duty of these people who have thyroid enlargements? We believe that those people who have these enlargments are not partaking of the opportunities that are presented to them. Merely living in South Carolina does not prevent goiter. As you knov, the negroes like molasses and bread and mest; they do not have gardens and do not have cows.

We hope this work will go on to completion and that we shall be able to present reports from time to time.

Dr. F. H. McLeod, Florence: The inspiration of Dr. Weston in investigating the high iodin content of South Carolina grown food products has met with state-wide enthusiasm, and it is greatly to be regretted that the Food Commission who are so splendidly trying to further the interest of the State by giving proper publicity to this important discovery, have been handicapped for want of funds. I trust that money will yet be available so that the commercial side of this matter may be properly presented to the goiter stricken areas of the country. It is necessary for us either to bring these people here, which is not practicable, or to send our food to them. It is a tremendous proposition, full of great potentialities, and will take money.

The State of South Carolina has had a long, drawn-out economic problem to solve and appropriations have been influenced by these conditions. But it is hoped that the commercial possibilities of this proposition will present themselves in such manner to the legislature that we shall not be handicapped at this time.

In the discussion of Dr. Tyler's excellent paper last night, it was suggested that the proper way to interest the legislators in the State's needs was to acquaint them fully with just what was needed, and the suggestion was made that each county society have a meeting to which its representatives and senator were invited, and that such matters be fully discussed as pertained to the needs of the medical association as regards public health and other matters, and especially at this time, the presentation of the iodin situation.

In Florence we are most optimistic and we are very appreciative of the reception you gave Mr. Conard's iodin song. I should like Mr. Conard to stand so that you might see the author of the song. Mr. Conard denies that he is a musician, but the character of his work would indicate otherwise.

Dr. N. B. Heyward, Columbia: It all sounds too good to be true. I hate to be in the position of a pessiment, because I am primarily an optimist, I think. My friends know I am optimistic about most things. At the time Dr. Remington started his survey in this state I had the only available figures on the goiter percentage in our people in this state. Some of you may remember that two or three years ago, at our Anderson meeting, I reported the results of the examination of three thousand students at the University of South Carolina. I had a map of the state shown there which indicated where the students with enlarged thyroid lived. I am vot

sure of my figures, but my recollection is that in the university among those young adults the percentage of palpable goiters ran around ten or fifteen per cent. in the boys and among the girls ran up into thirty per cent. I do not know that these boys and girls ate South-Carolinagrown vegetables regularly. Somebody has to hold down this enthusiasm, or we shall get too enthusiastic. If we can sell South Carolina vegetables all over the country, maybe our farmers will get prosperous and we can collect something out of them again. But don't get the idea that we have no goiter in South Carolina, for we do have it. Certainly the figures I have been able to get in the University of South Carolina are not in line with the figures obtained in the examination of school children, just quoted.

Dr. Remington: I want to say just a word in supplementing what Dr. Heyward said. He was very kind in furnishing me a copy of this report. I tried to study it, but from the information available I could not quite correlate it to definite local areas in the state.

Dr. Francis L. Parker, Charleston: I should like to say a few words from the chemical viewpoint in regard to the determination of iodin in waters and vegetables. Since iodin is present in such exceedingly small quantities, it has been suggested by some that perhaps these figures may be wrong and that they have no significance, in that the amount of iodin is estimated in parts per billion; and I have been asked how one can estimate substances in terms of parts per billion. I shall not go into technical details but shall give you a simple illustration which may perhaps explain it.

Some years ago I was testifying in court and made a statement under oath that some waters contained three million bacteria per cc. I was asked if I had counted them and replied that I had. I was asked how long it took, and I said that it took less than a minute. I was then asked how I could count three million in one minute. I said that I had inoculated three plates, having previously diluted the water one million time. I found three colonies on each plate, so to count three million it took about as long as to count three. I am confident that the results obtained by Dr. Remington are just as reliable as the results obtained anywhere. I have on a great many occasions visited his laboratory, with the viewpoint of ascertaining for my own interest whether or not these experiments were carried out as carefully as they should be carried out; and I am glad to say to the gentlemen of this association that they need feel no doubts about the accuracy of the work.

Just one word regarding the difference between inorganic iodin and organic iodin. I have

been asked if there is any essential difference, if iodin is not iodin. In recent years we have found out that very small amounts—amounts so small as not to be ordinarily appreciable—of organic matter produce very striking results. We all know there are two classes of matter, organic and inorganic, and that people live mostly on organic matter. I do not think think there is any doubt that there is an essential difference between iodin existing in inorganic matter and iodin existing in organic matter.

These questions have been asked me a number of times, and from a chemical viewpoint the answers to them are evident.

Dr. Samuel Orr Black, Spartanburg: I have listened with considerable interest to the remarks of Drs. Remington and Mason.

It so happens that up in the city of Spartanburg up to the present time we have had about four hundred cases of goiters. I feel that we are acquainted with the therapeutic indications and the use of iodine in goiter.

It is the drug par excellence for the prevention of goiter in children.

Dr. Remington has told us in detail of its evidence in South Carolina grown vegetables and its prevalence as compared with the same vegetables grown in other states in the Union.

Being a physician I am primarily interested in the effect of these vegetables on the prevalence of goiter.

I did not hear the essayist say one word as to South Carolina's vegetables therapeutic effect on goiter in any one of its varieties.

I feel that these should be fed to animals and that exhaustive studies and experiments should be made using suitable controls in all instances before we say too much about their effect on this particular disease.

In the last forty or fifty cases of goiter that we had in the Mary Black Clinic there is an increasing proportion of toxic cases, especially of the hyper-plastic type.

What I want to know, Mr. President, is, what is the therapeutic value of our vegetables and their relatively high iodine content in the treatment of goiter.

Is this a medical or an agricultural proposition? If the latter, or if we are to advertise it as California has its grapes, Florida, its oranges, and Cuba, its sugar cane, then, well and good.

If it has therapeutic properties, let's hurry and find it out and label it as such. In other words let's be honest about it here in our Medical Society and let's make no statements that we will later have to retract.

Dr. T. M. Dulin, Clover: The legislature of South Carolina this year appropriated \$50,000 for this work. Last year it appropriated \$15,000.

Personally, I have heard of more goiter in the last three or four years than in ten or fifteen years before. I tell you, gentlemen, we had better touch this matter lightly. If this propaganda is borne out by truth, then well and good; if it falls down, then our state will be hurt.

Dr. Weston: I think it has been an observation ever since 1852, when Carpin, a French chemist and investigator noted it, that goiter is practically absent in those areas where iodin is an important factor in the food supply. I do not believe these gentlmen can point to a single investigator, since that investigation by Charpin was made, who has disproved that. I have made an investigation into many cases of goiter, and in none of those cases were they either vegetable eaters or milk drinkers except on rare occasions, perhaps, when they went to a party and ate some asparagus grown in California. A careful examination of vegetables in cans in the grocery shops showed that ninety per cent, of them were grown in the goiter area. Now, South Carolina has definitely pledged herself not to make any statement not borne out by the highest authorities, and these gentlemen need not feel that there is any man on that commission who would compromise South Carolina in any way. Every gentleman on the commission is jealous of the good name of South Carolina and will do nothing to reflect on that good name.

Dr. R. E. Hughes, President: The Chair would like to add, in comment on Dr. Black's remarks, that in the upper part of South Carolina there is a large element of the Tennessee and Southwestern Virginia mountain people that have come in, and that probably accounts for a good proportion of the goiter cases. I know Dr. Black gets a good amount of work from my town, the population of which is made up largely of these people—not native South Carolinians. This may explain the prevalence of goiter.

Dr. E. F. Parker, Charleston: I know very little about goiter and iodin, but I do know one thing, and I know that this is a most opportune time for the association to congratulate Dr. William Weston for his persistent endeavor to bring this matter forward, which has resulted in bringing the State of South Carolina into the limelight, even if it does not accomplish more than that—and I am sure it will. I move that we congratulate Dr. Weston and thank him.

Dr. Samuel Orr Black, Spartanburg: Will you indulge me the second time?

It was not with any reflection upon any member of the committee, at all, that prompted my remarks. I simply meant to ask the question, if any work has been done, or is now being done that will establish the therapeutic effect of our vegetables in the prevention and cure of goiter. No one gainsays the value of iodin in goiter. It has its place, not only in preventing simple goiter in children, but also in the preparation of the hyper-thyroid patient for operation.

Dr. Remington, closing the discussion: Actual experimentation on human subjects is not an easy thing to do. We are just beginning at the present time a cooperative experiment with the Child Welfare Institute of the University of Minnesota, which is supported by the Rockefeller Foundation. We are entering on a program by which we agree to furnish this institute sufficient South Carolina products so that they can feed these children a leafy vegetable, a potato, and a root vegetable every day for a year or more. Very careful observations will be made, including x-ray studies of the bones, etc., and the data carefully collected. In addition to that, we are starting a rat colony in Charleston, and as soon as we get a sufficient number of rats we will undertake to gather some data which we hope to present at a future date.

SOCIETY REPORTS

THE RIDGE MEDICAL SOCIETY MEETS

The Ridge Medical Society met in Dr. Timmerman's offices, Monday, June 17, at 8 P. M. Dr. O. P. Wise acted as Chairman, due to the absence of the President.

Dr. G. R. Westrope favored the meeting with several beautiful violin selections which was unusual for us but quite highly appreciated.

Dr. W. P. Timmerman gave a short report of. the meeting of the State Medical Association in Charleston which elicited some comments from Dr. C. H. Blake who also attended the meet-

Dr. Timmerman read several communications on matters pertaining to the Association and other phases of medicine.

Dr. C. H. Blake of Greenwood read an interesting an instructive paper on cerebral injuries during labour.

Supper was served in the Commercial Hotel and was graced by the presence of the Ladies Auxiliary as our guests.

After supper Dr. Westrope rendered several violin solos. He is the County Health Officer of Lexington County.

Drs. Westrope and Able were appointed an entertainment committee (musical). After practising in Langley for the past few years Dr. K. L. Able has again located in Batesburg.

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, JUNE 25TH, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors; Banov, Beach, Buist, Burn, Cathcart, Jackson, Kollock, Mood, Palmer, Rhame, W. A. Smith (11).

The minutes of the meeting of June 11th were read and confirmed.

Under Reports of Officers and Committees, Dr. C. W. Kollock, Chairman of the Board of Censors, reported that the Board was somewhat nonplussed as to what action should be taken in regard to the case of Dr. E. H. Barnwell, which case had been referred to the Board of Censors, in regard to the failure of Dr. Barnwell to pay the full amount of his dues for each year previous to the current one, the Doctor having paid his dues in full for 1929. The Board, after considering the matter, felt that become effective on July 1, 1929.

an error had been made in not carrying out the by-laws in regard to his failure to pay full dues prior to this year; and in view of the further fact that the Treasurer had accepted his dues for the current year, the Board recommended that he be retained in full membership, but that the Secretary write the Doctor and request that he submit the balance due the Society. On motion, the recommendation of the Board of Censors was adopted.

The Secretary announced that Dr. F. G. Cain had been appointed by the President as a member of the Board of Censors in the absence of Dr. O. B. Chamberlain. Dr. R. S. Cathcart thought that this was a matter that the Society itself should consider, and moved that Dr. Cain be elected to fill the place of Dr. Chamberlain during his absence from the city. This was seconded and carried.

Under Miscellaneous Business, Dr. R. S. Cathcart moved to reconsider the action of the Society in regard to the visiting privileges of the Hospital. This was seconded and unanimously carried. Dr. Cathcart then offered a substitute resolution, as follows:

WHEREAS, the Medical Society of South Carolina, trustee under the Will of (Thomas Roper, is charged with the "erection, maintenance and regulation" of the Roper Hospital, Charleston, South Carolina, and

WHEREAS, it is considered best for the well being and conduct of any hospital that consideration should be given to the qualifications, standard and conduct of those of the medical and dental professions to whom are extended the privileges of the Hospital, Therefore

BE IT RESOLVED: That in the future the privileges of the Roper Hospital be granted only to members of the Medical Society of South Carolina and to such other white members of the medical and dental professions to whom the Board of Commissioners, with the approval of the Board of Censors, may grant the privileges.

RESOLVED, further, that any white member of the medical and dental professions may apply to the Board of Censors of the Medical Society of South Carolina for the privileges of the Roper Hospital and if approved, shall be granted the privileges of the hospital by the Board of Commissioners of the Roper Hospital.

Filed under Roper Hospital, Board of Commissioners.

This was seconded and carried. It was moved, seconded and carried that the above resolution The Secretary directed the attention of the Society to the fact that Dr. R. B. Gantt was still sick, and moved that Dr. Gantt's dues be remitted for the year 1929, and that he be retained as a member in good standing during this period. This was seconded and carried.

At 9:00 P. M. the Scientific Program was called.

Dr. T. H. Martin reported a case of automobile injury with lacerations of the abdominal wall and fracture of the pelvis. The important features of the case, as pointed out by the Doctor, were the failure of infection to take place in the extensive lacerations, the simple method of using a Bradford frame for holding the fracture in place, and the excellent results achieved. Dr. J. P. Palmer exhibited the X-rays of this case.

There being no further business, the meeting adjourned.

W. A. Smith, Secretary.

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SOCIETY, HELD AT LIBRARY HALL, MONDAY, JUNE 3, 1929.

The meeting was called to order by the President, Dr. J. G. Murray at 8:15 P. M. with 30 members and guests present.

The minutes of the last meeting were read and approved.

Dr. Roy D. Metz was then called upon who presented an admirable paper on "Functional Constipation". Dr. Metz first stated that a diagnosis as to cause should be made. A review of the physiology of defection was next given in great detail.

The principal causes were given as follows:

- 1. Too much purgatives.
- 2. Too great bulk of faecal masses and hardness.
 - 3. Too much stimulating and irritating foods.
 - 4. Lack of exercise.
 - 5. Faulty mastication.
 - 6. Too concentrated foods.
 - 7. Excessive absorbing power of the colon
 - 8. Disregard of desire to defecate.

The symptoms of functional constipation may be caused by pressure of the masses such as pruritis ani, haemorrhoids; other symptoms are headache, vertigo, "heart-burn", halitosis, etc., although it is not understood how these symptoms are brought about.

Treatment:

Stop so many cathartics and ennemata, 2 glasses of cold water every 2 hours, abdominal exercise for 15 minutes daily, mineral oil, agaragar, belladonna, hyocyamus, etc. Discussed by Drs. Curran B. Earle, Wilkinson, Guess, Grimball; closed by Dr. Metz.

Detailed clinical case reports:

Dr. George R. Wilkinson

Onset begun in a young male at age of 15, five year previously. Diagnosis —Diabetes Mellitus. This patient had the first insulin given in the State of South Carolina. Urine first showed 7% sugar, and the patient was very emaciated. There was evidence of hyperinsulinism at the beginning of treatment and the treatment for this was molasses per rectum. There was also a severe attack of furunculosis. No attempt was made to keep the patient sugarfree as another attack of hyperinsulinism was feared. This patient was shown to the Society and he is now enjoying fairly normal health and is able to pursue a gainful occupation.

The second case was that of a girl age 16 who had had diabetes for the past 5 years. At first there was 6% sugar in the urine, blood sugar ranging from 300-400 mgms. There was incontinuence of urine and the patient voided about 3000 cc. per day on the average; there was also a marked tendency towards overflow of the bladder. The patient is now taking 35 U. of insulin in the morning and 25 U. in the afternoon. This girl had taken a NaC1-free diet as this salt tends to produce ascites. Dr. Wilkinson here cautioned that women taking insulin should be carefully watched as this is a frequent complication. The patient now received only 10 U. of insulin per day and is able to go about her work. Discussion by Drs. Grimball, W. S. Fewell, J. W. White, Tyler, and Carpenter; closed by Dr. Wilkinson.

Dr. Chas. O. Bates

The case was that of a negro man who had been shot in the neck 9 weeks prior to admission to a local hospital. (The man's neck was very stiff the following morning following the injury and he spat up some blood; the x-ray did not reveal the bullet. One month previous to admission he spat up blood rather profusely. Physical examination revealed a desperately sick negro man who required opiates for the pain in neck and lungs. There was profuse expectoration and the neck was slightly angulated with marked swelling on the left side; there was also severe pain in both arms. Another x-ray taken at the time of admission to the hospital revealed a distinct fracture of the 4th cervical vertebra. An extension of 7 pounds was put on after which a cast was applied including head, neck and chest with the head in extension. This patient was advised to return every 10-14 days for observation. The bone trauma did not show up in the x-ray until the pathology had set in. Dr. Wolfe remarked under the discussion that failure to find the pathology may have been due in the main to faulty interpretation. Discussed by Drs. Evatt, Wilkinson, and

J. W. White; closed by Dr. Bates.

Dr. J. W. White then showed some x-ray films of a case of ankle fracture.

Under the heading of old business the matter of physician's license fees were taken up. Dr. Bruce, chairman of the committee reported that a definite concrete plan had not been submitted to City Council. Discussed by Drs. Wolfe, C. O. Bates and Tyler.

Dr. Tyler moved that the Committee submit a plan to the County Society at its next meeting, and if approved by the Society that this plan be submitted to the Finance Committee of City Council. Dr. Wolfe on amendment offered by Dr. Earle was to serve on the Committee, and Dr. Tyler was to serve on the Committee as amended by Dr. Wolfe; seconded and carried with amendments.

There being no further business the meeting adjourned.

I. S. Barksdale, M. D., Secretary.

YORK COUNTY MEDICAL ASSOCIATION MEETS

The York County Medical Association held a very interesting meeting at Winthrop College, Johnson Hall, June 12, 1929, 8 p. m. Dr. Norma P. Dunning, Resident Physician of Winthrop College, the newly elected President occupied the chair. Dr. Dunning is a charming presiding officer and by her tact and gracious manner made every one feel at ease immediately.

The meeting was not as largely attended as had been hoped but was a very creditable one from every standpoint. The routine business was dispensed with and the scientific program entered into as follows:

"The Diagnosis of Gall Bladder Disease", by Dr. Hugh Smith, Greenville, S. C.

"Brief case reports with Comments."

- (1) Post-Diptheritic Paralysis.
- (2) Internal Secondary Hemorrhage.
- (3) Asthma of Ethmoid and Maxillary Etiology.
- (4) Cerebro-Spinal Fluid Leakage, Meningitic, Recovery.

By Dr. J. W. Jervey, Greenville, S. C.

"Enlarged Outlook for Organized Medicine," by Dr. E. A. Hines, Seneca, S. C.

The discussions on all of these papers were most timely and interesting.

There were a number of visitors from nearby cities and towns. At the close of the meeting refreshments were served by the Woman's Auxiliary and an opportunity given for a very pleasant social hour.

The York County Medical Society has some of the very best doctors in the State on its roll and the evidently are entering upon an ambitious program for the year's activities.

E. A. H.

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, MAY 28TH, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors; Allen, Ball, Beach, Bowers, Buist, Burn, Byrnes, Cain, Cannon, Jackson, F. B. Johnson, Kollock, Lynch, McCrady, McInnes, Mitchell, Mood, O'Driscoll, Plowden, W. H. Price, Prioleau, Richards, Rutledge, Townsend, Waring, I. R. Wilson, R. Wilson (27).

The minutes of the meeting of May 14th were read and confirmed.

Under Reports of Officers and Committees, Dr. K. M. Lynch, Chairman of the Committee on Arrangements for the South Carolina Medical Association Meeting, reported as follows:

The convention of the South Carolina Medical Association was held as scheduled on May 7, 8, 9, 1929, with good attendance and appointments. The scientific exhibits were unusually pretentious, due largely to the efforts of Dr. J. H. Cannon of this committee. In addition to the committee members, some other members of the Society were called upon to look after details of the meetings, particularly Dr. H. H. Plowden and Dr. R. B. Taft.

Following is a complete financial report. The bills for expenses incurred have been endorsed and handed to the Treasurer for payment. The income will be turned into the treasury as collected.

Expenses

Walker, Evans and Cogswell Co., for
badges\$ 45.00
Victory Theatre 75.00
Francis Marion Hotel, ball room and re-
freshments for Reception to President
of the Association 100.90
Skuhra's Orchestra, for music 53.00
Palmetto Sign Co., exhibit signs and
booths 45.15
Secretary, for registration and exhibits 15.00
Express, postage, etc., on scientific exhib-
its and motion picture films 8.25
Total\$342.30

Income

Income, net, from	fees of com	mercial ex-	
hibitors, after	deducting	percentage	
due hotel			280.00

Balance, to be paid by the Society _____\$ 62.30 A resolution was adopted to receive this report as information, and to thank the committee for its good work.

Dr. G. McF. Mood, Chairman of the Board of Commissioners, reported as follows:

At the regular meeting of the Board of Commissioners, held on May 20th, the following resolution received from the General Medical Staff of the Hospital was read:

"Moved that the Board of Commissioners be requested to request the Medical Society of South Carolina to limit the privileges of the Hospital to members of the Society in good standing."

The Board of Commissioners passed the following resolution:

"Resolved that the resolution from the General Medical Staff of the Hospital be referred to the Medical Society of South Carolina for consideration and action."

The pleasure of the Society in this matter was then asked. The matter was discussed by Dr. F. B. Johnson, who made a motion to refer the matter to the next regular meeting of the Society as a Special Order of Business. After discussion by Dr. Prioleau, the motion was seconded and carried.

Dr. C. W. Kollock reported for the Committee which was appointed to meet with the Parent Teachers Association. He stated that it was not the object of the Parent Teachers Association to ask free treatment for the children, but simply that they were anxious to have them as near one hundred per cent as possible, and that their idea was simply to get some one to make the examinations.

It was now 9:00 o'clock, and the Society proceeded with the regular Scientific Program.

Dr. R. L. McCrady reported a case of rupture of uterus during delivery, the case having been attended by a midwife. A hysterectomy was done to control the bleeding. Patient recovered.

Dr. McCrady also reported a case of obstructed labor due to failure of dilatation of the external os of the cervix. The extreme thinness of the cervix made manual dilatation a simple matter.

Dr. J. Austin Ball reported a case of Herpes Zoster, which later developed a varicella eruption. He reported another case with orbital Herpes and varicella lesions over body. In the latter case there was some hemorrhagic eruption.

These cases were discussed by Dr. Rutledge.

The paper of the evening, "Coronary Occlusion", was then read by Dr. Robert Wilson. He reported a number of cases of this condition and showed the electrocardiograph tracings of each case.

This valuable paper was discussed by Drs. Cain, O'Driscoll and Cannon, Dr. Wilson closing.

The Society now reverted to a continuation of the business program, and Dr. A. J. Buist expressed his opinion of the subject under discussion. He gave it as his opinion that these charitable associations, Parent Teachers, etc. should go to the parents and advise them to call in their family physicians.

Dr. Banov, in discussion of the matter, said that this free summer round-up of the preschool child was a national movement by all the recognized public health bodies, the idea being to send the small child to school healthy. He said, too, that the Board of Health simply attempts to find defects and the child is sent to the family physician for correction. He explained that one of the main objects of the examination is educational, that it, to get the child accustomed to visiting his physician. The whole matter was discussed by Drs. Robert Wilson, Kollock, I. R. Wilson, Burn, Cannon, and Cain.

As no definite solution was arrived at, and as the subject was such a big one, it was decided to give the committee more time for its investigation.

Dr. Kollock made a motion that Dr. A. J. Buist be made a member of this committee. This was seconded and carried.

There being no further business, the Society adjourned.

W. A. Smith, Secretary.

PROCEEDINGS OF THE REGULAR MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, TUESDAY EVENING, JUNE 11TH, 1929, AT 8:30 O'CLOCK

The meeting was called to order by the President, Dr. Henry P. Jackson.

Present: Doctors; A. E. Baker, A. E. Baker, Jr., B. R. Baker, Banov, Beach, Bowers, Buist, Cannon, Cathcart, Deas, de Saussure, Finger, W. H. Frampton, Jackson, F. B. Johnson, Kollock, LaRoche, Maguire, Martin, Mitchell, Mood, Moore, O'Driscoll, Pearlstine, Richards, Rutledge, W. A. Smith, Taft, Townsend, I. R. Wilson, Palmer (31).

Guests: Dr. R. H. Lanning, of the U. S. Navy. The minutes of the meeting of May 28th were read and confirmed.

The Secretary read a form letter from the American Medical Association in regard to hospital privileges, hospital conferences and medical society programs. It was moved, seconded and carried that the letter be received as information and that the Secretary make a suitable reply to the Secretary of the American Medical Association.

Under Miscellaneous Business, Dr. R. S. Cathcart brought to the attention of the Society, at the request of Mr. M. Rutledge Rivers, that Sir William Gray, of Canada, would make the annual address to the St. Andrews Society on the occasion of its two hundreth anniversary, on November 30, 1929. It was moved, seconded and carried that the Secretary write Sir William Gray and express the gratification of this Society in having him come to Charleston on this occasion, and the hope that the members would have the opportunity to meet him. Dr. C. W. Kollock suggested that it would be well for the Society to make some arrangement to entertain the Doctor during his stay in Charleston, and suggested that this might be arranged for at a later date.

The regular order of business having been completed, the President stated that the special order of business which had been arranged for would now be taken up, and requested that the Secretary read the resolution of the General Staff, transmitted by the Board of Commissioners to the Society at its last meeting. The Secretary then read the following resolution:

"Resolved that the Board of Commissions be requested to request the Medical Society of South Carolina to limit the privileges of the Hospital to members of the Society in good standing."

After some discussion, in which Drs. R. S. Cathcart, A. J. Buist, F. B. Johnson, and others took part, the following resolution, introduced by Dr. Cathcart, was seconded and carried:

Resolved that the privileges of the Roper Hospital be extended to those of the medical profession who have made application therefor and have been approved by the Board of Censors of the Medical Society of South Carolina. It is understood that this does not refer to those members of the profession who have enjoyed the privileges of the Hospital for twenty years or more, and those who are at present in good standing in the said Society.

The Scientific Program was called at 9:00 P. M. This consisted of a series of surgical case reports.

Dr. A. E. Baker reported a case of peno-scrotal hypospadias, on which several operations had been performed with a view of the construction of a new organ. He exhibited the patient, a boy of fifteen, which showed the success of these multiple operations. Dr. Rutledge, Dr. Buist and Dr. O'Driscoll discussed the case, making further suggestions as to the best methods of achieving a final result. Dr. Baker closed the discussion.

Dr. T. E. Bowers reported a case of gunshot wound of the spine, in which the bullet had penetrated the twelfth dorsal vertebra and dropped down into the spinal canal, being removed at the fourth lumbar vertebra. He exhibited the patient and demonstrated the paralysis resulting from injury to the cauda equina, stating that after removal of the foreign body the paralysis had improved nearly one hundred per cent. Dr. Bowers requested that Dr. O'Driscoll outline the anatomical and physiological effect of the injury to this portion of the spinal cord. Dr.

O'Driscoll carried out this request in a masterful way. Dr. Palmer showed an X-ray film giving the location of the bullet. The paper was further discussed by Dr. Prioleau. Dr. Bowers closing.

Dr. W. H. Prioleau reported a case of purulent appendicitis on which he had done an interostomy. This patient developed pneumonia, following which he had another pelvic abscess. In operating for this latter condition, he was able to see the result of the interostomy, which showed that the intestine did not remain adherent to the abdominal wall, but was held there by a stringlike band in which there was an opening communicating with the external air. Dr. Prioleau exhibited the case, and also discussed the value of interostomy in acute peritonitis.

At the conclusion of this report, Dr. J. P. Palmer was requested by the President to come forward and sign the constitution.

There being no further business, the meeting adjourned.

W. Atmar Smith, M. D., Secretary.

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SOCIETY, HELD AT LIBRARY HALL, CITY LIBRARY BLDG., JULY 1, 1929.

In the absence of the President, the meeting was called to order by a Past President of the Society, Dr. Curran B. Earle at 8:30 P. M. with about 30 members and guests present.

The minutes of the last meeting were read and approved as read.

Dr. Earle then called upon Dr. Frank E. Kitchen (D. V. M.) who presented an excellent paper on "Brucella Abortus Infections". The speaker first stated that the organism produces a virulent infection of the uterine mucous membrane and the foetal membranes of the cow and foetus. The economic loss from Br. Abortus infection is approximated by experts at \$100,000,000 a year. Dr. Abortus is identical with Dr. Mellitensis in morphology and cultivation and differentiation is accomplished by the agglutination tests.

Channels of infection: 1. Digestive tract. 2. Through the skin. 3. Copulation. 4. Artificial. The organism has a predilection for embryonic tissue, and the non-gravid cow's uterus is not readily infected although the organisms may remain latent there until conception. Dr. Kitchen then outlined the pathology of the disease in cattle. The infection occurs from 3-5 times and then the animal apparently develops immunity of varying degrees. The infection, although the cattle may go to term, produces a great diminution in the milk supply.

Dr. Kitchen then stated that there have been 10,000 cases in Southern France since 1920. It

was formerly thought that the organism may be transmitted to humans by imported cheeses, but it has been shown that this is not likely except in the case of fresh cheeses.

Man may become infected by abrasions on the skin or on the mucous membranes by coming in contact with infected animals.

It has also been shown that 30% of the milk (raw) on the Chicago market is infected with Br. Abortus.

Dr. Kitchen then assured us that the disease is not more common, but, as in the case with many other diseases, we are able to recognize it better. In the case of humans, where the Widal test is negative, it was suggested that agglutination tests for Br. Abortus be done in all cases. These infections may be often traced to infected dairy farms and to people who have been associated in some way to the animal industries relating to the handling of cattle or swine.

The following reasons were offered in the attempt to explain why there are not epidemics of the disease among human beings:

1. Man enjoys a fairly good natural immunity. 2. Human resistance against it is often good. 3. There may be few strains that are really virulent against man. 4. The swine type of Br. Abortus seems to be the strain most commonly isolated from the human body, and relatively few people come in contact with these animals as compared to cattle, moreover, our contact with these animals is not so close as with cattle. The swine type seems to predominate in the State of Iowa.

Br. Abortus infections have been observed in slaughterhouse workers, and have also been traced to the handling of aborting sows, at which time the organism is supposed to have entered through abrasions in the human skin.

This undulant type of fever seems to be more common to rural communities where the pasteurization of milk is not resorted to, also in small communities.

Dr. Kitchen then discussed the significance of cattle who reacted to the Br. Abortus tests stating that there is much conflicting evidence in the conclusions deduced from these tests.

Virulent strains of the organism are difficult to cultivate as CO2 gas is necessary to their cultivation.

The control of the infection depends upon the following factors: 1. Co-operation between the Veterinary and Medical Professions. 2. Pasteurization of milk and, 3. More complete knowledge of the disease.

Discussed by Drs. J. M. Fewell, Davis who moved that the paper be published in the State Medical Journal, seconded by Dr. J. M. Fewell and carried. The discussion was continued by

Drs. Earle, Tyler, Carpenter; closed by Dr. Kitchen.

Dr. Willard C. Hearin was then called upon who presented a very revealing paper on "Indications for, and Methods of Choice of Caesarian Section". This operation has been performed to, our definite knowledge since 1620; the mortality has markedly improved during the past 50 years. The mortality, in the hands of skilled operators is 2-4% for the classical type of the operation and less than 1% for the low type of operation.

Indications for the operation:

Indications are classified as absolute and relative, for the three types of Caesarian Section, the Polow, Classical and Cervical. The indications, relative and absolute as outlined by Dr. Hearin were myoma, osteomalacia, haemorrhage, uterine rupture, malignancy, presence of a virulent infection, in which the Polow type was to be resorted to. Indications for Classical type: contracted pelvis, large child, stenosis of the vaginal tract, prolapse of uterus, aged primipara; relative indications—eclampsia, ante-fixed uterus, fibromata, heart disease, pulmonary oedema, etc.

Indications for low section is simply a method of choice in preference to the Classical Type and should be restored to where skilled operators are available.

The Classical Type is the easiest method and most rapid, but has the disadvantage of predisposing more to infection. Incidence of uterine rupture in subsequent labors is higher. The low section is less apt to cause shock, and the incidence of uterine rupture is less likely to occur.

Dr. Hearin then mentioned some of the most important indications for a series of 31 cases worked up by himself, namely:

1. Eclampsia. 2. Slightly dilated cervix. 3. Contracted pelvis. 4. Cervical stenosis. 5. Double cervix in patients seen too late. 6. Congenital heart disease. 7. Decompensated heart and large foetus. 8. Scar tissue in vaginal canal. 9. For the purpose of sterilization.

Dr. Hearin strongly advocated local anaesthe sia for these operations and stated that 23 of this series had been done under local. Discussed by Drs. Guess, Curran B. Earle, C. O. Bates; closed by Dr. Hearin.

Detailed clinical case report: Dr. L. O. Mauldin.

This was a case of Mikulicz's disease (chronic enlargement of the salivary glands). The patient was 56 years old and had severe distress about the mouth; there had been a pievious attack of a milder nature 6 months pievious to the time Dr. Mauldin saw him. A diagnosis of cancer of the throat had been made. Examination revealed no pathology in the throat at all, but there was a purulent discharge on the right

of the tongue also from Wharton's Duct; further examination revealed a very large abscess the cause of which was a fairly large stone in the duct. After removal of the stone, the patient was given an alkaline mouth-wash; recovery was rapid.

Dr. T. M. Davis then exhibited some new surgical instruments of his own invention.

Under the heading of new business, Dr. Davis complained of the great delay of building the new Tuberculosis Sanitorium. Dr. C. O. Bates moved that the Secretary write the members of the Greenville County Delegation requesting that this body make an effort to secure the money with which to start the build of the Sanitorium; seconded and carried.

Dr. Tyler reported that the Committee on License Fees was in the act of securing information from various City Clerks, and that the Committee would probably report back to the Society at its next meeting.

The Secretary then read a letter from Mrs.

A. F. McKissick requesting the Society to assist in the examination of Veterans for Government hospitalization; this letter had been addressed to Dr. Curran B. Earle. Dr. Earle moved that the President of the Society, Dr. W. H. Powe and the Secretary arrange for a meeting with Mrs. McKissick regarding this matter; seconded and carried.

The following new members were unanimously elected to membership in the Society; Drs. J. M. Brice, J. W. Jervey, Jr., and John E. Davis.

Dr. Walter Bates suggested that the Society give a fish supper at the August meeting at which time representatives of the Southern Paediatric Seminar would be the guests of the Society. Dr. Tyler moved that the President of the Society, Dr. Walter Bates, and the Secretary meet at some near future date and plan this meeting; seconded and carried.

There being no further business, the meeting adjourned.

I. S. Barksdale, M. D., Secretary.

NEWS ITEMS

IODINE CONFERENCE

June 21, 1929

Dr. E. A. Hines, Seneca, S. C. Dear Dr. Hines:

We deeply regret that you could not attend the meeting in Columbia yesterday. It was fine. The attendance was excellent and the men all seemed interested in the iodine subject and expressed their desire to help in such ways as they could, not only in stressing the use of our own vegetables by our own people, but also to lend such assistance as opportunity will offer to aid the matter in a commercial way.

I am sending you a transcript of the proceedings, the resolution formally adopted, and a list of those invited.

I presume that you prefer to use such of this material as you would like in an editorial rather than as a reportorial.

With kind personal regards, I am
Sincerely yours,
F. H. McLeod, M. D.

The Scuth Carolina Commission of Natural Resources requested Dr. F. H. McLeod to directly interest the doctors of the state in the high iodine content of our home grown good products. This was done by the appointment of a representative of every county in the state, who was requested to attend a meeting in Columbia at the Jefferson Hotel on June 20th.

This meeting was well attended, about thirty doctors being present. The situation was discussed by Dr. Weston, Dr. Remington, Dr. Cathcart, Dr. Shaw and many others, and it was evident that there was no lacking in interest in the matter.

The following resolution was unanimously passed: (Exhibit A.)

The Commission of Natural Resources was requested to prepare suitable slides for moving picture houses presenting briefly the iodine subject, and it was suggested that the county demonstration men and women, and all other such agencies be requested to make the education of the people as to the value of our home grown food products, be an important part of their activities.

The following were appointed as chairmen of medical affairs for their respective counties (Exhibit B) and were requested to see that the proposition is presented to every possible agency in their counties.

Exhibit A

WHEREAS the Laboratory of the South Carolina Research Commission has demonstrated by careful analyses, and these analyses confirmed by other high chemical authorities, the high mineral content, and especially iodine in the fruits and vegetables grown in South Carolina.,

We THEREFORE recommend that the peo-

ple of South Carolina eat their own products, it having been demonstrated that they contain all the requirements of nutrition.

We futhermore recommend that our physicians urge upon their patients the importance of preventing nutritional deficiency diseases by the consumption of their own products, it having been demonstrated that they are of exceptional value.

We recommend that this be brought immediately before each county medical society, and all physicians of the State, and medical organizations in the United States, and other health agencies, by the journal of the South Carolina Medical Association, the State Board of Health, the press, and the individual members of this conference.

Exhibit B

Abbeville—Dr. G. A. Neuffer, Abbeville.
Charleston—Dr. Robt. S. Cathcart, Charleston.
Aiken—Dr. Hastings Wyman, Jr., Aiken.
Allendale—Dr. Jno. L. Folk, Fairfax.
Anderson—Dr. J. R. Young, Anderson.
Georgetown—Dr. Olin Sawyer, Georgetown.
Spartanburg—Dr. D. Lesesne Smith, Dr. W. B.
Lyles, Spartanburg.

Colleton—Dr. Riddick Ackerman, Walterboro. Horry—Dr. H. L. Scarborough, Conway. Richland—Dr. Geo. H. Bunch, Dr. F. M. Routh, Columbia.

Bamberg—Dr. J. S. Matthews, Denmark. Barnwell— ______, Barnwell. Lexington—Dr. D. M. Crosson, Leesville. Beaufort—Dr. M. G. Elliott, Beaufort. Marlboro—Dr. C. R. May, Bennettsville. Kershaw—Dr. Jno. W. Corbett, Camden.

Lee—Dr. S. B. DuBose, Bishopville.
Cherokee—Dr. A. L. Little, Blacksburg.
Berkeley—Dr. Wm. K. Fishburne, Pinopolis.
Orangeburg—Dr. C. A. Mobley, Orangeburg.
Hampton—Dr. Jos. B. Harvey, Hampton.
Union—Dr. A. P. McElroy, Union
Williamsburg—Dr. E. T. Kelley, Kingstree.
Calhoun—Dr. J. F. Fairey, St. Matthews.
York—Dr. W. B. Ward, Rock Hill.
Pickens—Dr. W. A. Tripp, Easley.
Newberry—Dr. Robt. W. Houseal, Newberry.
Chesterfield—Dr. W. J. Perry, Chesterfield.
Chester—Dr. Robt. E. Abell, Chester.
Greenville—Dr. Hugh Smith, Dr. J. W. Jervey,
Greenville.

Florence—Dr. F. H. McLeod, Florence.
Oconee—Dr. Jno. D. Verner, Jr., Walhalla.
Laurens—Dr. T. L. W. Bailey, Clinton.
Edgefield—Dr. A. R. Nicholson, Edgefield.
Sumter—Dr. H. L. Shaw, Sumter.
Darlington—Dr. Wm. Egleston, Hartsville.
Saluda—Dr. P. A. Brunson, Ridge Springs.
Dillon—Dr. D. M. Michaux—Dillon.
Dorchester—Dr. Jno. Van De Erve, Summerville.

Clarendon—Dr. W. H. Carrigan, Summerton. Greenwood—Dr. J. C. Harper, Greenwood. Lancaster—Dr. C. W. Morrison, Lancaster. Marion—Dr. E. M. Dibble, Marion. McCormick—Dr. C. H. Workman, McCormick. Fairfield—Dr. C. S. McCants, Winnsboro. Jasper—Dr. C. P. Ryan, Ridgeland. Dr. Eugene Zemp, Columbia. Dr. Kenneth Lynch, Charleston. Dr. William Weston, Columbia. Dr. Roe Remington, Director of Laboratory, Charleston.

University of Maryland School of Medicine and

College of Physicians and Surgeons

Requirements for Admission—Two years of college work, including English, Chemistry, Biology and Physics, in addition to an approved four year high school course.

Facilities for Teaching—Abundant laboratory space and equipment. Two large general hospitals absolutely controlled by the faculty and several hospitals devoted to specialties, in which clinical teaching is done.

For catalog apply to J. M. H. Rowland, M. D., Dean, N. E. Corner Lombard and Greene Sts., Baltimore, Md.

.....

BOOK REVIEWS

- THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1928, Volume XX. Edited by Mrs. M. H. Mellish, Richard M. Hewitt, M. D., and Mildred A. Felker, B. S. Octavo volume of 1197 pages with 288 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$13.00 Net.
- THE NOSE, THROAT and EAR and their DI-SEASES-In original Contributions by American and European Authors. Edited by Chevalier Jackson, M. D., Professor of Bronchoscopy and Esophagoscopy in the University of Pennsylvania, in the Jefferson Medical College, and in the Graduate School. University of Pennsylvania, and George M. Coates, M. D., Professor of Otology, Graduate School, University of Pennsylvania. Assisted by Chevalier L. Jackson, M. D., Assistant in Bronchoscopy and Esophagoscopy, University of Pennsylvania. Octavo volume of 1177 pages with 657 illustrations and 27 inserts in colors. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$13.00 Net..
- CHEMISTRY IN MEDICINE—A Cooperative Treatise Intended to Give Examples of Progress Made in Medicine With the Aid of Chemistry. Edited by Julius Stieglitz, Professor of Chemistry, University of Chicago. Advisory Editors: Anton J. Carlson, Professor of Physiology, University of Chicago; Reid Hunt, Professor of Pharmacology, Harvard Medical School; Frank R. Lillie, Professor of Zoology, University of Chicago; LaFayette B. Mendel, Professor of Physiological Chemistry, Yale University; H. Gideon Wells, Professor of Pathology, University of Chicago. The Chemical Foundation, Inc., 85 Beaver Street, New York, N. Y.
- CLINICAL ELECTROCARDIOGRAMS Their Interpretation and Significance by Frederick A. Willius, M. D. Section on Cardiology, The Mayo Clinic, Rochester, Minnesota and Associate Professor of Medicine, The Mayo Foundation, University of Minnesota. Quarto of 219 pages with 368 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$8.00.

- PHYSICAL THERAPEUTIC TECHNIC By Frank Butler Granger, M. D., Late Physician-in-Chief, Department of Physical Therapeutics, Boston City Hospital; Director of Physiotherapy, United States Army; Medical Counselor, United States Veterans Bureau; Member of Council of Physical Therapy, American Medical Association; Instructor of Physical Therapeutics, Harvard Medical School; Assistant Professor of Physical Therapy, Tufts Medical School. With a Foreword by William D. McFee, M. D., Boston, Mass. Octavo volume of 417 pages with 135 illustrations. Philadelphia and London: W. B. Sanders Company, 1929. Cloth, \$6.50 Net.
- THE NEUROSES—By Israel S. Wechsler, M. D., Associate Professor of Clinical Neurology, Columbia University, New York City. Octavo of 330 pages. Philadelphia and London: W. B. Saunders Company, 1929. Cloth \$4.00 net.
- DISEASES of the NOSE, THROAT and EAR (Sixth Edition)—A Manual of Diseases of the Nose, Throat and Ear. By E. B. Gleason, M. D., LL.D., Professor of Otology, Graduate School of the University of Pennsylvania. Sixth Edition, Thoroughly Revised. 12mo of 617 pages with 262 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth \$4.50 net.
- SURGICAL PATHOLOGY—By William Boyd, M. D., Professor of Pathology, University of Manitoba, Winnipeg, Canada. Second Edition, Revised and Reset. Octavo of 933 pages, with 474 illustrations and 15 colored plates. Philadelphia and London: W. B. Saunders Company, March, 1929. Cloth, \$11.00 net.
- THE SURGICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month.) Volume 9, number 2. (Chicago Number—April, 1929) 243 pages with 70 illustrations. Per Clinic year (February, 1929 to December, 1929). Paper, \$12.00; Cloth, \$16.00. Philadelphia and London: W. B. Saunders Company.
- THE PHYSIOLOGY OF LOVE—By George M. Katsainos, Ph.D., M. D. Privately Printed at Boston, Massachusetts, U. S. A.

GONORRHEA AND KINDRED AFFECTIONS—GONORRHEA IN THE MALE, CHANCROID AND VERRUCA ACUMINATA—By George Robertson Livermore, M. D., F. A. C. S. Professor of Urology, Medical Department, University of Tennessee, Memphis, Tennessee; Consulting Urologist, Memphis General and Baptist Memorial Hospitals and Hospital for Crippled Adults; Attending Urologist, St. Joseph's Hospital; Fellow, American Association of Genito-Urinary Surgeons; Southern Surgical Association; American Urological Association, Etc., and

GONORRHEA IN THE FEMALE? AND THE INFECTIOUS GRANULOMATA—By Edward Armin Schumann, A.B., M. D., F. A. C. S. Associate Professor of Obstetrics, University of Pennsylvania; Gynecologist and Obstetrician to Philadelphia General Hospital; Gynecologist to Frankford Hospital; Gynecologist and Obstetrician Jewish Hospital; Obstetrician to Chestnut Hill Hospital; Gynecologist and Obstetrician to Memorial Hospital; Fellow, American Gynecological Society, Obstetrical Society of Philadelphia, etc. D. Appleton and Company, New York and London, 1929.

SITUATIONS WANTED

WANTED: Salaried Appointments for Class A Physician in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Azuoc's National Physicians' Exchange, 30 North Michigan. Chicago. Established 1896. Member The Chicago Association of Commerce.



LET US COLLECT YOUR SLOW ACCOUNTS FOR YOU.

COMMISSIONS AS LOW AS 25%. NO OTHER CHARGES.

Endorsed by American Medical Association and State Societies. References: Bradstreets, Chamber of Commerce; Commerce Trust Co. or publishers of this journal, Satisfied clients everywhere SEND FOR LIST BLANKS

Physicians & Surgeons Adjusting Association

RAILWAY EXCHANGE BUILDING.

KANSAS CITY MO.

Therapeutic Teamwork

favors results which satisfy both

Patient and Doctor

Magnesia-Mineral Oil (25)

formerly Haley's M-O Magnesia Oil has been accepted for N. N. R. of the A. M. A.

Uniform, permanent, unflavored and pleasant emulsion of Magma Mag and Liquid Petrolatum.

LUBRICANT · ANTACID LAXATIVE



FORMULA:
Each Tablespoonful Contains
Magma Mag. (U. S. P.) 3 iii,
Potrolat. Liq. (U. S. P.) 3 i.

Oral or Gastric Hyperacidity, Gastric or Duodenal Ulcer, Intestinal Stasis, Autotoxemia, Obstipation, Colitis, Hemorrhoids, Pre- or Post-Operative, Pregnancy, Maternity, Infancy, Childhood, Old Age.

An Effective Antacid Mouth Wash

Generous sample and literature on request

Watch for "The Eulogy Of The Doctor"

The

HALEY M-O COMPANY, Inc.

Geneva, New York

SAFE, SIMPLE INFANT FEEDING

HORLICK'S Malted Milk is safe and simple in infant feeding. Its successful use for nearly half a century has demonstrated the following outstanding advantages:

- The readily assimilable state of its minerals promotes sound bone and tooth structure.
- The light, flaky curds produced because of the modified nature of its milk constituent aid digestion.
- The exact proportions of its malt sugars promote regular bowel action in the infant.
- The exclusive Horlick process conserves the vitamin content of milk and malted grains unimpaired.

For samples address-HORLICK, Racine, Wis.





As a General Antiseptic

in place of
TINCTURE OF IODINE

Try

Mercurochrome---220 Soluble

(Dibrom-oxymercuri-fluorescein).

2% Solution

It stains, it penetrates, and it furnishes a deposit of the germicidal agent in the desired field.

It does not burn, irritate or injure tissue in any way.

Hynson, Westcott & Dunning

Baltimore, Maryland

HAY FEVER

has been prevented in thousands of cases with

Pollen Antigen

Lederle

Introduced by the
LEDERLE ANTITOXIN LABORATORIES
in 1914

Prophylactic Treatment may be commenced as late as two weeks before the date of the expected attack.

Supply us with details concerning a case and we will give your problem special attention.

LEDERLE ANTITOXIN LABORATORIES
NewYork

FOR SALE CHEAP

A complete set of Eye, Ear, Nose and Throat instruments. These instruments are modern and in perfect condition.

S. B. KOSER, M. D. Beaufort, S. C.



Starch-free Diabetic Foods that are appetizing are easily made in the patient's home from Listers Flour. It is self-rising. Ask for nearest depot or order direct.

LISTER BROS. Inc., 41 East 42nd St., NEW YORK

The Iournal

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A. HINES, M. D., F. A. C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston. S. C.

PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. C OBSTETRICS AND GYNECOLOGY

R. E. SEIBELS, M. D., Columbia, S. C. UROLOGY

W. B. LYLES, M. D., Spartanburg, S. C. ROENTGENOLOGY

T. A. PITTS, M. D., Columbia, S. C.

PATHOLOGY AND BACTERIOLOGY H. H. PLOWDEN, M. D., Charleston, S. C.

SURGERY

C. B. EPPS, M. D., Sumter, S. C. EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY

J. RICHARD ALLISON, M. D., Columbia, S. C. GASTRO-ENTEROLOGY AND PROCTOLOGY

W. T. BROCKMAN, M. D., Greer, S. C.

NERVOUS AND MENTAL DISEASES E. L. HORGER, M. D., State Hospital, Columbia, S. C.

MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

PLANS FOR FLORENCE MEETING, 1930, UNDER WAY. PRESIDENT

ELECT A. M. A. ACCEPTS INVITATION

Before the gavel fell closing the meeting of the Association at Charleston a conference of the President Elect, Dr. C. R. May and the other Officers of the Association, was held and tentative plans for the next meeting discussed. For one thing, the Scientific Committee was appointed and entered upon its work. The following is the personnel of this Committee:

Dr. Hugh Smith, Greenville, Chairman.

Dr. James McLeod, Florence, S. C.

Dr. W. R. Mead, Florence, S. C.

Dr. C. R. May, President, Member Ex-Officio.

Dr. E. A. Hines, Secretary, Member Ex-

It is with the greatest interest in connection with the program for our next meeting that we are permitted to announce in this issue the acceptance of our invitation by Dr. William Guerry Morgan of Washington, D. C., President Elect of the American Medical Association to appear in an address on our program at Florence. Dr. Morgan is one of the outstanding internists of America. He has been Professor of Gastro-Enterology at Georgetown University Medical School for many years. He has been one of the most prominent officials of the American College of Physicians and has held office in numerous other National Societies. Dr. Morgan is one of the most lovable physicians in the United States. Few men have ever been elected President of the American Association without opposition as was the case at the Portland meeting when Dr. Morgan received this extraordinary honor. Dr. Morgan has a multitude of friends in the South, many of them members of our Association. He will add tremendously by his learning and charming personality to the attractiveness of the program next year. With such a start as this every member of the Association may feel that no stone will be left unturned to provide a program broad in scope and of keen interest to every-one concerned.

DEATH OF DR. J. E. WARNOCK

The news of the death of Dr. J. E. Warnock of Allendale, the able Councilor of the Eighth District of the South Carolina Medical Association has caused deep sorrow to his many friends throughout the State. Dr. Warnock had been an officer of the State Association for but a brief period, yet he had impressed the membership with his sincerity of purpose, his great interest in organized medicine and his desire to be helpful to the immediate section of the State in which he lived. Dr. Warnock was in the prime of life. He was active in many organizations. His funeral was one of the largest ever held in the city in which he lived, being attended by large numbers of people from neighboring towns, thus giving evidence of his popularity. Dr. Warnock will be greatly missed in the councils of the South Carolina Medical Association.

DR. WILLIAM WESTON HONORED AT THE A. M. A.

The following letter appeared in the Bulletin of the Fulton County Medical Society, Atlanta, Ga., August 15, and was written by one of the distinguished delegates from the Georgia Medical Association:

One of the outstanding features at the Meeting of the American Medical Association at Portland, Oregon, was the exhibt of the State of South Carolina under the management of Dr. Wm. Weston of Columbia. We look upon this as one of the greatest movements that has been made in recent years by any State in the Union.

Under the advisement of Dr. Weston, the State several years ago began the chemical study of foods, and many surprises have developed. Special attention has been given by Dr. Weston to the mineral content of the various foods grown in his State. He has found that the mineral content of their foods does not simply exceed the quantity of iron, manganese,

copper and iodine of vegetables grown in the middle and far West but in many instance exceeds it in multiples of hundreds. Scientist are all recognizing this fact, and Dr. Weston told me that the farmers could not supply the demand for their vegetables.

Georgia's sister State is setting an example for her which she certainly should follow. The greater portion of Georgia is in the coasta plains and a very similar soil to that of South Carolina. Just the work under the directorate of this one man is producing an asset for the State of South Carolina that is inestimable. It will ultimately amount to not millions but billions of dollars. If our Legislature would awaken to this important movement it would render a service to this State greater probably than anything else that might be considered

Goiter and other diseases are being produced by feeding foods obtained elsewhere and promptly cured by feeding the South Carolina products and vice versa. The Medical profession of Georgia should awaken to this important movement and arouse the business interests of this State to take up similar activities.

E. C. Thrash, M. D.

NOTE: In addition to the above recognition Dr. Weston was elected Chairman of the Section on Diseases of Children.—Ed.

DETTER FROM MEDICAL ASSOCIATION OF GEORGIA ABOUT MEETING AT MIAMI, FLORIDA, OF THE SOUTHERN MEDICAL ASSOCIATION

Dr. E. A. Hines, Secretary, Seneca, S. C. My dear Dr. Hines:

The members of the Medical Association of Georgia are planning a President's tour to the Southern Medical Association at Miami, Florida, November 20th to the 22nd. We would leave Savannah on the morning of the 18th and expect to reach Miami the following afternoon.

We are writing early to extend to you an invitation to join this mortorcade and also to extend to the profession of South Carolina through you, an invitation to join us. We

trust that we shall be able to have a large representation from the profession of your state.

I am writing a long time in advance so that you may publish this information in the Journal of your Association and advise us later how many cars will make the trip.

With kind personal regards,

1 am,

Sincerely, Wm. R. Dancy, M. D., President, Medical Association of Ga.

Dr. E. A. Hines, Secretary, South Carolina Medical Association, Seneca, S. C. My dear Dr. Hines:

I am in receipt of your delightful letter of August 13th and I am pleased to know that you will publish the invitation of the Medical Association of Georgia for the President's tour to Miami in the next Journal of your Association. I appreciate that this means the presence of quite a few cars from your good state. I would be very glad if you would keep me advised relative to this matter. I think it would be well to mention in your Journal that those expecting to make the tour with us should notify you as soon as possible, giving the name and type of car and size of tires so that our repair cars can carry the necessary materials. The membership in Savannah and Atlanta of our Association are quite enthusiastic over the trip. As we reach cities of interest we expect to tour through them under the guidance of a local physician. As to insignia on the cars anyone may decorate his car as he sees fit. We shall probably have a poster for the windshield.

I enclose tentative schedule in this letter.

With best regards, 1 am.

Sincerely, Wm. R. Dancy, M. D., President, Medical Association of Ga.

SCHEDULE FOR THE PRESIDENT'S TOUR FROM SAVANNAH, GA., TO MIAMI, FLA.

MILES:

Lv. Savannah-7:00 A. M.

84 Ar. Brunswick—9:30 A. M. Stop in Brunswick, for incidentals, one half hour.

Lv. Brunswick—10:00 A. M.

70 Ar. Jacksonville—12:00 P. M.
Stop in Jacksonville one hour for lunch.
Lv. Jacksonville—1:00 P. M.

41 Ar. St. Augustine—2:15 P. M. Lv. St. Augustine—2:45 P. M.

31 Ar. Bunnell—3:45 P. M.

26 Ar. Daytona Beach—4:30 P. M. . Spend night at Daytona Beach.

SECOND DAY:

Lv. Daytona Beach—8:00 A. M.

- 15 Ar. New Smyrna—8:30 A. M.
- 51 Ar. Cocoa—10:00 A. M.
- 22 Ar. Melbourn 10:45 A. M.
- 48 Ar. Ft. Pierce—12:00 P. M. Half an hour for incidentals Lv. Ft. Pierce—12:30 P. M.
- 59 Ar. West Palm Beach—2:00 P. M. One hour for lunch.
 Lv. West Palm Beach—3:00 P. M.
- 43 Ar. Fort Launderdale—4:30 P. M.
- 23 Ar. Miami—5:15 P. M.

513

PRESIDENT'S PAGE

By C. R. May, M. D., President South Carolina Medical Association

It is highly essential that the South Carolina Medical Association have a large number of its members attend the next meeting of the Southern Medical Association at Miami in November. I would like to see at least two hundred and fifty attend, and hope that by planning early and making some sacrifices if necessary, we can have a large attendance at this important meeting.

We should all go labeled with the Iodine Label of the South Carolina Natural Resources Commission on our coats and be able to answer all inquiries concerning this newly discovered resource, as it is by far the most important discovery and the most vital fact that has been placed before our people.

The high iodine content of South Carolina grown vegetables is astounding and gratifying to millions of goitre sufferers; to whom it means satisfaction and relief from one of the most intractable of conditions. They are so interested that they are going to call on South Carolina to produce enough vegetables to help them with the goitre situation. The doctors of the goiter belt not only recognize and approve our find, but stress the crying need of those afflicted and the necessity of obtaining enough of the foodstuffs so rich in iodine. How to get the cooperation of the whole state and work out plans as to how best to handle this valuable resource to the mutual advantage of the goitre sufferers and the agricultural interests of the state will require much study and understanding of the prevailing conditions in each county. Since this research work and the facts brought out have been originated by two of our distinguished physicians and their co-workers, we should back up the work they are doing and try and aid them in every way possible for the good of humanity and our own State. The whole world have their eyes on South Carolina and her marvelous discovery, it is up to us to give them the facts.

So once more I ask that we study this important situation and let us have a crowd of South Carolina Physicians at the Miami meeting in November.

ORIGINAL ARTICLES

*CONTROLLABLE SPINAL ANESTHESIA

By A. F. Burnside, M. D., Columbia, S. C.

For some years, Dr. Bunch and I have been interested in spinal anesthesia but felt that it was not a safe procedure, especially in the type of patient in whom ether was contraindicated. It was not until the latter part of 1928 that we began to use spinal anesthesia to any extent.

In many cases needing surgical treatment, the choice of anesthesia is of vast importance. Since the time of Hippocrates there has been and exists an unwritten or implied law between the patient and the physician or surgeon, that it is the duty of the physician to avail himself of every possible means within mortal power to preserve the life of the patient. If the professional attendant is conscientious and feels that his professional skill is wanting in any particular line, he considers a specialist or refers the case to one more experienced in that particular branch of the profession. He considers what is best for the patient and acts accordingly, but does the profession, particularly the surgical profession, act in the same manner regarding anthesia? Probably not, and I think we are safe in saying that generally there is little, if any, consideration given by the surgeon to the type of anesthetic that is going to be used. Not infrequently it is left to the anesthetist, who is occasionally a nurse, and the results are in direct ratio to the experience and ability of the anesthetist. To administer inhalation anesthesia to patients suffering with diabetes, nephritis, alcolholism, drug addictions, decompensated hearts, hypertension, arteriosclerosis, eclampsia, pernicious vomiting, anemias, (primary, secondary or pernicious), strangulated hernia, intussusception, volvulus, general peritonitis, local or pelvic peritonitis, shock, emaciation, obesity, bronchitis, pleurisy, tuberculosis, phryngeal or tracheal obstruction, one is not adhering to the unwritten law, but is, in fact, doing harm to the patient and contributThe real mortality from inhalation anesthesia is not at the time of the operation, but is secondary, from one hour to one week following induction. The secondary mortality is 95% of the whole, as compared with 5% of primary mortality. How many surgeons can say that they have had one hundred, or even fifty, successive cases without some of the post-operative complications of inhalation anesthesia, such as postoperative shock, distention, ileus, lung abscess, acidosis, acute dilatation of the stomach, albuminuria, suppression, bronchitis, pneumonia, or the flare-up of an arrested tuberculosis?

The primary mortality of spinal anesthesia is no greater, and is probably less, than that of inhalation anesthesia; secondary mortality, as it is administered at the present time, is nil.

Since the latter part of 1928, we have given 186 patients spinal analgesia, using the Pitkin technique entirely. His solution is called spinocain and contains 0.0022 gm. strychnine sulphate, 0.195 gm. novocain, 0.13 gm. starch paste, 0.324 gm. alcohol and normal saline q. s to two c.c. in each ampule. The patient is prepared in the usual manner before coming to the operating room. One hour before operation the patient is given one H. M. C. No. 2 hypodermically and an half hour later morphine sulphate grains 1/8. For spinal puncture, the patient is put on his side with knees flexed, head bent toward knees and back bowed out. The entire lumbar, part of the dorsal, and sacral regions are painted with iodine and the field draped with sterile towels. About 20 minimums of a 1% novocain and 5% ephedrin solution is injected into the skin between the spinous processes where the lumbar puncture is to be made. This solution is used to anesthetize the area for spinal tap and to prevent a fall in the blood pressure. A 22 guage rustless spinal puncture needle with the point ground off to an angle of 45° is used. It is

ing to the hospital's mortality list. All of the above patients do much better with spinal anesthesia.

^{*}Read before the South Carolina Medical Association, Charleston, S. C., May 9, 1929,

important that the needle be inserted through the interspinal ligament at a right angle to the long axis of the spine and not diverted to right or left. When the needle goes through the dura there is a snap and a sensation of lack of resistance which leads one to believe that the canal has been entered. The stylet is withdrawn from the needle and spinal fluid flows out. When anesthesia of the perineal region is desired, only 1 c. c. of spinocain is required. Attach the syringe containing 1 c. c. of spinocain to the spinal puncture needle, aspirate one or two drops of spinal fluid to reassure yourself that the needle has not been misplaced, then inject the contents of the syringe, remove the needle immediately place the patient in a 15° to 18° Trendelenburg position.

If anesthesia is to be confined to the legs, 2 c. c. of spinocain is used. Aspirate 1 c. c. of spinal fluid into the syringe containing the anesthetic solution and then inject one-half of the contents. Again aspirate 1 c. c. of spinal fluid and inject the contents of the syringe. The table is now placed in a 10° to 15° Trendelenburg position.

For anesthesia to the umbilicus, 2 c. c. of spinocain is sufficient for short operations. For prolonged operations 3 to 4 c. c. should be employed in ratio to the anticipated length of the operation. Four c. c. will cause the anesthesia to last about two hours. Into a 5 or 10 c. c. syringe aspirate 1 c. c. spinal fluid. Inject one-half of contents. Again aspirate 2 c. c. of spinal fluid and inject the contents of the syringe, placing the patient in a 7° to 10° Trendelenburg position.

To extend the anesthesia to the costal margin, draw up 4 c. c. of spinocacin into a 5 or 10 c. c. syringe, aspirate 1 c. c. spinal fluid, inject one-half of the contents; again aspirate 2 c. c. spinal fluid, inject one-half the contents of the syringe and repeat this once again to make a total expansion of 8 c. c.; then inject the contents. Then place the patient in a 5° Trendelenburg position.

In our series of 186 cases using the above method, we have had three deaths, only one of which I am sure could possibly be attributed to the anesthetic. One case was a man 57 years old, who had been bleeding for several months from a gastric ulcer. He was transfused twice

before operation. The spinal anesthetic wore off before the operation was completed and it had to be supplemented with ether. He died on the sixth day after operation from pneumonia.

The second case was a man sixty-eight years old with a large perforating gastric ulcer. About one-half of his stomach was removed, an anterior gastroenterostomy and an interior enterostomy was done. He reacted nicely, but died suddenly seventeen hours after the operation. We were unable to get an autopsy.

The third case was a woman thirty-four years old with an advanced pulmonary tuber-culosis. She had a history and physical finding of a very acute appendicitis. At operation we found many large perforating tubercular ulcers of the ilium. She died on the fourth day after operation from a general peritonitis which was verified at autopsy by the pathologist.

In most of the patients in this series of cases there was a definite contraindication for inhalation anesthesia, such as acute colds, bronchitis, hypertension and arteriosclerosis, nephritis, diabetes and tuberculosis. We have had only three cases in which any complications could possibly be ascribed to the anesthetic, one of which was unable to void for five days following a hemorrhoidectomy. Another was unable to void for seven days following a bilateral inguinal herniotomy. The third was an old man who came into the hospital with hiccaughs, a blood pressure of 200/90, arteriosclerosis with an appendix abscess. His appendix was removed and abdomen drained. He had an uneventful recovery except for an incontinet bowel for five days.

In most of our cases the blood pressure has not fallen below the normal level. In a few, it has dropped as low as 70 systolic and one case dropped to 50 systolic. In a few cases it has risen.

We have had only one patient to complain of headache in this series. A blood smear revealed that she had malaria and quinine relieved her.

I am sure that in this series of cases we have saved a number of lives we could not have saved if it were not for spinal anesthesia. We have been able to do better and neater

work due to the fact that the abdominal muscles are much more relaxed and the intestines are contracted. It does not take one-third of the packing off in the abdomen as it does with inhalation anesthesia, hence less trauma, less postoperative adhesions. The psychic effect of spinal anesthetic is good. The patient's convalesence is shorter and more comfortable, due to the fact that there is practically no vomiting, dehydration, ileus or distention.

Bibliography

- Pitkin, Geo. J.—Controllable Spinal Anesthesia. J. Med. Soc. of N. J., July, 1927.
- Koster, Harry—Spinal Anesthesia in Surgery of Head, Neck and Throat, A. J. Sur. December, 1928.
- Babcock, W. Wayne—Spinal Anesthesia, An Experience of Twenty-four Years. Am. Journal of Surgery, December, 1928.
- Evans, Chas. H.—Possible Complications With Spinal Anesthesia. Am. J. of Surgery, Dec., 1028.
- Cosgrove, S. A.—Spinal Anesthesia in Obstetrics. Am. Jour. of Sur., December, 1928.
- McCormick, Frank C.—Postoperative Phases of Spinal Anesthesia. Am. J. of Sur., Dec., 1928.
- Albee, Fred H.—Spinal Anesthesia in Orthopedic Surgery. Am. J. of Sur., Dec., 1928.
- Jeck, Howard S.—Spinal Anesthesia in Kidney and Ureteral Operations. Am. J. of Sur., Dec., 1928.
- Case, James T.—Lumbar Anesthesia. Am. J. of Sur., December, 1928.
- DeCourcy, Joseph L.—Newer Methods of Controllable Spinal Anesthesia. Am. J. of Sur., Dec., 1928.
- Labay, Gaston.—Elimination of Dangers of Spinal Anesthesia. The American Journal of Surgery, December, 1928.
- Russell, T. R.—Spinal Anesthesia. The American Journal of Surgery, February, 1929.
- Leveenf, Jacques—Influence of Spinal Anesthesia on Intestinal Peristalsis. (Especially in Intestinal Occlusion), LaPrese Medicals, 36:1028-1029, (August 15), 1928.
- Leriche, Rene—Spinal Anesthesia, La Presse Medicale, 36:225-227 (February 22), 1928.
- Rapoport, Boris—Observations on Spinal Anesthesia With a Report of 500 Cases. The

- New Egland Journal of Medicine, 198:447-452, (April 19), 1928.
- Goodman, Henry I.—Cholecystectomy Under Spinal Anesthesia, Medical Journal and Record, 128:324-328, (October 3), 1928.
- Sarnoff, Jacob—Refined Technique of Spinal Anesthesia in Abdominal Surgery, New York State Journal of Medicine, 28:649-654 (June 1), 1928.
- Anadie, et al—Intraspinal Anesthesia and Uremia Presse Med., 1926, xxiv, 387.
- Astley, B. G. M.—Spinal Anesthesia in Caesarean Section for Toxemia of Pregnancy. Am. J. Obst. & Gynec. 1927. xiii 83-86
- Babcock, Wayne W.—Blood Pressure in Relation to Spinal Anesthesia. Anest. & Anal. 1925, lv., 222.
- Boyd, August S.—"We have not had more than a 30 or 40 point drop in blood pressure, or had occasion to administer stimulation on the table in over 3 years" Personal Communication.
- Brindeau, and Lantuedoul—Spinal Anesthesia In Obstetrics, Bull. Soc. d'obst, et de gynec de Par, 1927 xvi 243-245.
- Brooks, J. D.—Spinal Anesthesia in Tuberculosis Patients. U. S. Vets. Bur. Medical Bull, 1927 iii, 700.
- Campbell, Meredith F.—Spinal Anesthesia. Ann. Surgery 1926, lxxxiv, 42-50.
- Idem.—Spinal Anesthesia: A Study of its use in 536 Cases. Anesth. & Anal. 1927, vi, 75-80.
- Cooke, Henry Theodore—Spinal Anesthesia in Obstetrics Including Caesarean Section; or Painless Conscious Childbirth, Am. J. Surg. 1923 xxxvii, 107-111.
- Delman, P.—Concerning Spinal Cocainization in Operative Gynecology and Obstretrics. Rev. Franc de Gynec et D'obet. 1920 xv, 145-154.
- Desplas and Millet. P.—The "Shock Producing" Reputation of Spinal Anesthesia. Is it Justified? Presse Med. 1918 xxvi, 234-236.

DISCUSSION

Dr. Samuel Orr Black, Spartanburg: When one speaks of bronchoscopy, one thinks of Chevalier Jackson; when one speaks of gall-bladder or colonic surgery, one thinks of the peerless

W. J. Mayo; and when one hears of speaks of spinal anesthesia one's mind automatically turns to Wayne Babcock of Philadelphia. He has used it more frequently and over a longer period of time and has done more to popularize it than any other man.

Three years ago we decided to give spinal anesthesia a thorough trial. After using it cautiously and selectively in some twenty-five or thirty different patients and being more or less pleased with it, I visited Babcock to obtain at first hand his technic, as well as the merits and limitations of the anesthetic itself.

Intradural is not a true cord anesthesia but is a root anesthesia, due to the action of the anesthetic agent on the anterior and posterior spinal nerve roots. It interrupts the conduction in the roots exposed to the drug in proportion to the degree in which the root and the drug contact one with the other. It is unsafe and impracticable for operations above the diaphragm. This, of course, is due to its action on the important nerve centers. Until a drug is found which has a selective action for the posterior roots, it will continue to be contraindicated for surgery of he head, jaw, neck, breast, or thorax. The higher one goes up toward the twelfth dorsal vertebra with the injection, the more profound the reaction. It has no appreciable action on the liver on kidneys or lungs. It can with safety be used in diabetes, acute and chronic bronchitis, acute and chronic tuberculosis, nephritis, cardiac hypertrophy, hypertension, and other organic diseases.

It contracts the intestine, stimulates peristalsis, relaxes the sphincter ani, and often empties the lower bowel before the patient is returned to bed.

There is no anesthetic with which I am familiar that gives such relaxation. It is almost instantaneous. As soon as the incision is made, the walls collapse or fall apart, active peristals is plainly visible, and manipulations can be easily performed, often without need of a retractor. Occasionally there is a transient nausea or retching, which is usually controllable by oxygen or ammonia. The drop in blood pressure we control by subcutaneous injection of adrenalized saline just after the subrachnoid induction.

It is not a good anesthetic in neurotic individuals unless they are thoroughly narcotized by morphine or other sedative or kept in a state of subconscious quiet by nitrous oxid.

We do not use it in the presence of spinal lues, pleural or pericardial effusion, myocardial degeneration, or in cases of extreme obesity. We use it more and more in small individuals with low blood pressure.

There is an element of danger in it. This element is known and understood and is easily combatable. There is more danger in the user

than in the anesthetic. It requires patience, study, and experience in its use before it is safe in an operator's hand.

There is considerable objection to it by certain members of the profession. The laity have been educated to gas and to ether, but not to spinal anesthesia. Babcock has pointed out that in a hostile community it had best be used at first very cautiously. In our hands, headache is rare and nausea and vomiting are less than with general anesthesia. There have been no spinal or cord lesions and no palsies or permanent anesthesia.

I listened with pleasure to the very excellent paper of Dr. Burnside. He has discussed in a practical way the indications and contraindications, as well as the technic itself and the results of his experience with this anesthesia.

In closing I would say that in my judgment spinal anesthesia in its field (i. e., in cases in which it is not contraindicated), and in the hands of one who has been thoroughly grounded in its technic, one who knows and understands and is interested in it, is the safest, the quickest, and the most relaxing anesthetic which we have.

Dr. J. H. Young, Columbia: Anesthesia is something I have not made any close study of, especially spinal anesthesia; but Dr. Burnside has called me on several occasions to sit by the patient while he is operating, after he has given a spinal anesthetic; and my impression is that spinal anesthesia certainly has its place. It is a good thing, and it is a thing that can not be replaced where it is indiated. I was struck with the absolute relaxation of the patient, the comfort of the patient, and the convenience which the surgeon has. I am really a little more partial to spinal anesthesia, I guess, than the averago doctor who has not been using it at all, because I have been associated with Dr. Burnside on several cases and I have been very forcibly struck with the thing as a whole and the way the patients recover after they get back to their rooms. I feel that spinal anesthesia is an anesthesia for cases where ether or some other form of anesthesia generally used can not be given without a great deal of risk. Lung conditions, of course, are one such class of cases, and kidnev conditions, also cardio-renal-vascular diseases; and I put in there, too, a class where you have a pus pocket in the abdomen. If you are trying to pack off your field with ether, and the anesthetist is trying to go lightly with the anesthetic, and the patient begins to strain, you are apt to soil the abodmen from the pus pocket. There is no straining with the spinal anesthetic, and less packing (less trauma to the intestines) is necessary.

Dr. H. K. Jenkins, Mullins: This spinal anesthesia, or any modification of a local anesthetic, approaches the ideal method of anesthesia. With a general anesthetic you put a patient to sleep, operate on him, put him back to bed in an unconscious condition or semiconscious condition, and you have to keep him on a starvation or semi-starvation diet for several days. That is abnormal, and he has not only the shock of the operation and anesthetic to get over but the starvation. Spinal anesthesia is the more rational method. By its employment the patient is often able to continue his diet without alteration. Of course, surgery is in the limelight, but the method of anesthesia should be emphasized more.

Dr. Burnside, closing the discussion:

I thank the gentlemen for the discussion.

I might say that this spinocain which we are using is lighter than spinal fluid, so you can get the patient in the Trendelenburg position at any time you want. Dr. Pitkin is getting out a new solution which is heavier than spinal fluid, which can be used in obstetrics. The patient can go through the second stage of labor without any pain. I have used the light solution in one obstetric case, and the patient was tickeld to death with it, but it is uncomfortable for the patient to stay in the Trendelenburg position for an hour or so after you give the anesthetic.

Dr. Koster, of Brooklyn, says he has secured complete anestesia from the tip of the toe to the top of the head and has used it in mastoid, tumors of the tongue, and operations on the head.

*AGRANULOCYTIC ANGINA

Report of a case in a physician

By J. J. Lindsay, M. D., W. P. Coan M. D., Roy P. Finney, M. D., Spartanburg, S. C.

Of the several new clinical entities that have been discovered and described during recent years none is more striking or interesting than agranulocytic angina. It was first recognized by Schulz who published observations on several cases in 1922 and outlined the criteria necessary for diagnosis. Since the publication of this original article only 49 cases have been collected from the literature. Kastlin reported 2 cases and summarized the findings in 43 cases. Stengle and Edward Rose have found six additional cases making a total of 49 in all.

The disease appears to effect females more

frequently than males. As regards age incidence most of the reported cases have occurred in middle life

The clinical picture of a typical case is quite clear cut and decisive. Without premonitory or invasive symptoms the onset suddenly occurs with fever, chills or chilly sensations, marked depression and anorexia. Within a few hours there appears an inflammation of the mouth or throat which the majority of cases progresses to necrosis and ulceration. The regional lymph glands may or may not be enlarged and they rarely suppurate. Rhinitis, conjunctivitis, and bronchitis are frequent companions.

But the most bizarre and peculiar, as well as the most characteristic phenomenon is the behavior of the leucocytes. Almost immediately there is a very grave depression of the total count which usually is less than 2000 and may be as low as 500 at the heighth of the disease, and more remarkable still the granulocytes or polymorphonuclear leucocytes are frequently entirely absent. The mononuclear lymphocytes are always relatively and sometimes absolutely increased. Schulz and others have rightly placed much emphasis on this peculiar leucocytic reaction as a diagnostic factor, and indeed it may be said to be pathognomonic.

The disease was fatal in all of Schultz's cases and he goes so far as to stress such a tremination as a diagnostic criterion. However other observers have reported a number of recoveries. Weiss contends that there are a variety of degrees and grades of the disease and that the prognosis is influenced by the usual factors that must be considered in any infection such as the virulence of the organism, the age and physical condition of the patient, etc. He believes that only two criteria characterize the diseac as a clinical entity: a clinical criterion—necrotic inflammation of the tonsils, gums, or mucous membrane of the mouth—and a hematologic criterion serious diminution or complete absence of the granulocytic cells. Musser in a recent article heartily subscribes to this

The disease runs a short course and death or recovery occurs in the course of a few weeks. A massive terminal pneumonia hastened exitus in many of the reported cases, and severe

^{*}Read by title before The South Carolina Medical Association, Charleston, S. C., May 8, 1929.

liver dysfunction with jaundice has also been noted. If a happier outcome is to occur the granulocytes reappear in the blood and soon attain their normal numbers, the fever subsides by lysis, the oral ulceration heals and the general condition of the patient rapidly improves. It is said that relapse occurs occasionally.

The differential diagnosis offers no difficulty in typical cases. There are atypical and borderline cases that require considerable knowledge of the phenomena of throat infection for correct diagnosis. A somewhat confusing fact is that Vincents organisms are practically always found in the mouths of victims of agranulocytic angina. Apparently they bear no relationship to the disease and are either normal inhabitants or secondary invaders. We feel very strongly that no throat infection should be labeled Vincents simply because the B. fusiformis and spirochetes are found in smears, unless the typical ulceration and necrosis characteristic of the disease is also present. In this connection it is well to recall that J. F. Fisher in 201 cases of the common every day disease pyorrhoea alveolaris found Vincents organisms present in every instance. Vincents angina is said to cause some depression of the leucocyte count and a relative mononucleosis but the blood is never agranulocytic.

In certain splastic anemias caused by bone marrow dyscrasia there is marked leukopenia with relative and absolute diminution of the granulocytes. The same is true in benzol poisoning and in radium and X-ray workers. One of us has seen a case of acute arsenical anemia following the administration of salvarsan that simulated very closely angina agranulocytica. The patient died after two weeks illness, the last leucocyte count being 700 with not a polymorphonuclear in 15 slides. The slides were checked by Dr. Standish McCleary of Baltimore who was of the opinion that the condition was aplastic anemia caused by antiluetic treatment.

It is probable that a number of cases formerly described as aleukemic lymphatic leukmia were in reality what we now know as agranulocytic angina, or at least that the etiological agent is the same. The disease is certainly of an infectious nature. The inflammation, necro-

sis, ulceration, fever and other symptoms could scarcely be produced by a chemical or biological toxemia, but as yet no organism has been isolated or accused.

Case Report

Dr. J. L. white, male, married, aged 63, native of South Carolina, and a physician, was stricken suddenly ill on the morning of Feb. 6, 1929 with chills, fever, sore throat, and pain in the rectum.

His past history related an attack of typhoid fever 30 years ago; appendectomy for acute appendicitis 25 years ago, a mastoidectomy in 1922, and an operation on the maxillary antrum in November, 1927. He recovered from all of these without complications and has been for 35 years a busy practitioner enjoying a fair state of health. He felt as well as usual and performed his usual duties the day before the onset of the present illness. However he has been troubled with a small fistula in ano for a number of years and two days prior to the onset of present illness he noticed that is was somewhat painful. He has not been troubled with frequent sore throat, his appetite has always been normal, and his digestion good.

On examination he was thin, toxic in appearance and appeared to be in considerable pain. His pulse was 105, temperature 102, respiration 20, and blood pressure 135 systolic, 80 diastolic. The scalp was normal, conjunctiva congested, and eyes watery. The throat was diffusely red, but especially was this pronounced in the region of the tonsillar fossae and over the posterior wall of the pharynx. In this location the mucous membrane was swollen and covered with a patchy, scarcely perceptible, grayish exudate. The gums were red and somewhat swollen. There was slight enlargement of the anterior cervical glands. The thyroid appeared normal. The heart, lungs, and abdomen presented nothing of interest, and the external genitalia were normal. Proctoscopy was suggested and emphatically refused in language unbecoming a follower of Aesculapius. He minimized his illness, saying that he had a little sore throat and would be all right in a few days, so that no further examinations were made until February 11, four days after the onset. At this time he had a severe conjunctivitis affecting both eyes, an intensely red and swollen throat, and an area of necrosis the size of a small coin surrounding the openings of the sublingual ducts. His general condition was distinctly worse, temperature ranging from 101 to 103; marked anorexia, profuse swéats, photophobia, and rectal pain each contributed its mite to his misery. The laboratory findings on this date (Feb. 11) were as follows:

Blood—Hemaglobin 66 (Sahli), red blood cells 4,600,000, leucocytes 1,950. The differential count was polymorphonuclear neutrophiles—0, small mononeuclear leucocytes 87%, large mononuclears 13%. Some doubt was expressed about the accuracy of the count and it was repeated that afternoon at two different laboratories with similar results, not a single granulocyte being found in examining a large number of slides.

Smears from the throat were negative for Vincents organisms, but they were present in smears taken from the gums. A throat culture was negative for diphtheria but a profuse growth of streptococcus was obtained.

The urine was cloudy, sp. g. 1010, albumen 1 plus, sugar negative. There were 8 pus cells to the H. P. field on microscopic examination.

His condition remained practically unchanged until February 16th when he began to improve, though his temperature did not reach normal permanently until February 29th. On February 16th he was moved from his home to the Spartanburg General Hospital, and on February 19th at his insistence the rectal fistula which had caused him considerable pain was opened. After the operation improvement continued, the conjunctivitis disappearing first and being followed in order by the sore throat, and sublingual ulceration. Temperature declined by lysis and was normal on February 29th, three weeks after the onset.

The blood picture was most interesting and we regret that this examination was omitted in the early stages of the disease. The results of the series of counts made during illness are as follows:

February 11th—Polymorphonuclear neutrophiles o, small mononuclear leucocytes 87, large mononuclears 13. Total count, 1,950.

February 13th—Polymorphonuclear neutrophiles ½, small mononuclear leucocytes 81, large mononuclears $18\frac{1}{2}$. Total count, 3,500.

February 18th—Polymorphonuclear neutrophiles 56, small mononuclear leucocytes 29, large mononuclears 11. Total leucocytes, 6,550.

February 28th—Polymorphonuclears $45\frac{1}{2}$, small mononuclears 27, large mononuclears 18, transitionals $9\frac{1}{2}$. Total count, 6,000.

March 9th—Polymorphonuclears 67, small mononuclears $27\frac{1}{2}$, large mononuclears $5\frac{1}{2}$. Total count, 10,200.

April 25th—Polymorphonuclears 69, small mononuclears 22, large mononuclears 8, eosinophiles 1. Total count, 8,350.

On March 12th he was well enough to leave the hospital and on March 16th he resumed practice. There have been no indications of a relapse, and he has almost entirely regained his former vigor.

*"REMARKS ON PERSONAL ENDOSCOPY AS AN AID TO THE DIAGNOSIS AND TREATMENT OF DISEASE"

By J. W. Jervey, Jr., M. D., Greenville, S. C.

It was with a great deal of pleasure that I accepted Dr. Herbert's kind invitation to make a few remarks on bronchoscopy. It is with more trepidation that I stand before you at this time, making my first appearance before a medical society. Youth and inexperience will ever take the stand when opportunity arises, therefore, knowing my own ignorance, and conscious of my years, I have the temerity to bring before you for consideration a subject new to some, old to many, and fully understood by very few, peroral endoscopy in its relation to the diagnosis and treatment of disease

May I say in passing that as yet my experience is extremely limited and that I speak to you about facts gleaned from a three weeks stay at the Chevalier Jackson Clinic, during a part of which time I was fortunate enough to take Dr. Jackson's personal course in bronchoscopy and esophagoscopy, and from reading all or nearly all of the literature that has been sent out from there in recent years.

It is a remarkable fact, and one that is not

^{*}Read before the Buncombe Medical Society, Asheville, N. C.

widely known, I am sure, that endoscopy done for the removal of foreign bodies from the air and food passages constitutes only two per cent of the endoscopies done at the Jackson Clinics in Philadelphia. Ninety-eight per cent are done for the purpose of diagnosis or treatment of disease. In endoscopy we have a method of direct inspection, which, as everyone will agree, is in all fields of medicine and surgery a most important aid to physical examination, indeed, in the vast majority of cases, essential to a correct diagnosis.

In the words of Dr. Jackson himself, bronchoscopy and esophagoscopy are without danger in the hands of a man who has had the proper training. No trauma is necessary and the presence of the bronchoscope or the esophagoscope in the tracheobronchial tree or esophagus is aboslutely harmless. No objections can be raised as to anesthesia because in children under twelve years of age *no* anesthesia is necessary and in older children and adults the smallest quantity of cocain solution locally is all that is needed. Of course there are certain contraindications to the procedure but these are obvious to all and need not be gone into here.

It will be of interest to mention some of the conditions in which endoscopy is of value.

Primary carcinoma of the bronchi and carcinoma of the esophagus can be picked up in their earliest stages and this can be done by no other method. Biopsy can be made when it is advisable. Most men are agreed that the earlier a diagnosis of malignancy is made, the better the chance of recovery. This has proved true in too many cases to leave the shadow of a doubt about it.

Jackson has recently published an article on peptic ulcer of the esophagus the diagnosis and to some extent the treatment of which being accomplished by endoscopy. The condition is far more frequent than is generally supposed.

Any case with esophageal symptoms should not be dismissed, and the diagnosis of globus hystericus should never be made before esophagoscopy is done, or has been omitted for some good reason.

In doubtful cases the diagnosis of tuberculosis has been made frequently by the bronchoscope. Tubercle bacilli have been discovered in secretions from the bronchi where the sputum

has time and again been negative. On the other hand, definite diagnoses other than tuberculosis has been made in patients who for years have been treated for tuberculosis and suffered accordingly.

It is believed that many cases of lung abscess, more especially those occurring postoperatively, and seen relatively early, are very much benefitted by bronchoscopic aspiration. Of course, many of these cases recover anyway, but many do not, and endoscopic drainage has apparently been of real value in aiding convalescence.

Bronchiectasis is a condition which all of you know is at best difficult to deal with. After postural drainage and expulsive cough, it has been found that much secretion can yet be aspirated through the bronchoscope. Many patients are greatly benefitted for weeks and even months at a time by a course of bronchoscopies with aspiration, four to six treatments being given over a period of two or three weeks depending on the patient. No hope of cure is held out to these patients and only those are treated, and there are many, who want it done simply as a palliative measure. Hospitalization is not necessary in all cases.

Asthmatic patients, especially those with a purulent tracheo-bronchitis accompanying are greatly relieved often for long periods by aspiration of the secretions and the application of local medication. Some dramatic results have been obtained with the use of autogenous vaccines made from the bronchial secretion where antogenous vaccines made from the sputum were of no value. Stenosis of a bronchus has been found which when dilated endoscopically cured an asthma of seven years standing. Nonopaque foreign bodies have been found, cure of asthma following their removal.

Interesting work has been done on postoperative atalectasis. In several cases bronchoscoped, a main stem bronchus has been found completely occluded by a tenacious thick secretion, which being removed, the lung peripheral to it almost at once filled with air. In some of these cases the bronchoscopy has to be repeated. It is certain that many cases of so-called etherpneumonia, or post-operative pneumonia, are really cases of atalectasis, as the physical signs may be the same in both cases. Time does not permit my going into interesting experimental

work which has been done by Dr. Gabriel Tucker along these lines.

To conclude, we have in endoscopy:

- 1. A method of physical examination by direct inspection, which can be carried out
- with no danger to the patient and which is an invaluable aid in diagnosis.
- 2. A means whereby certain diseases of the air and food passages can be easily and safely treated, bringing often relief, and sometimes cure.

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., CHARLESTON, S. C.

VASOMOTOR AFFECTIONS OF THE INTERNAL EAR

Professor Georges Portmann, M. D., Bordeaux.

March, Annals of Otology, Rhinology

and Laryngology

For a long time the action of the sympathetic on the labyrinthine circulation, on the one hand, and on the secretion of the endolymphatic fluid on the other, has impressed otologists. "Glaucome," is a term used again these last years by Aboulker and myself, to designate the hypertension of the endolymphatic fluid.

Lermoyez showed the importance of angiospasm of the vestibular or cochlear branches of the internal auditory artery in certain cases of deafness or vertigo. (Same in retina).

The stenosis of the internal auditory artery, which is brought about slowly, causes a gradual anesthesia of the ear—that is to say—deafness. But then the spasm ceases suddenly; the blood rushes again into the labyrinth which is stunned by it. This too sudden afflu, which in the fingers produces ordinary pain, causes here both the special pain of the cochlear organ, which is the buzzing, and the suffering of the vestibular organ, which is the vertigo. Besides that, it abolishes the anesthesia of the ear, that is, deafness.

And thus Lermoyez has summed up under the name of "the vertigo that makes one hear," a particular labyrinthine affection, which seems to be connected really with a spasm of the internal auditory artery.

It is expedient, from another reason, to oppose this syndrome to Meniere's disease; this sudden paryoxysmic, apoplectic and recurrent vertigo, which breaks out in the repose of full health and which was so long united with cerebral apoplectic congestion. (I have seen several cases during past five months.)

In Meniere's disease, and in Lermoyez's syndrome, the phenomena are the same, but they make their appearance in reverse order.

The vertigo which in one case inaugurates the fit, in the other ends it. In one case it suddenly impairs the health, in the other it restores it; in one case it brings deafness, and in the other it cures it.

Meniere's Disease

Good hearing. Sudden vertigo. Sudden deafness and decreasing. Slow recovery.

Lermoyez's Syndrome

Good hearing.
Sudden vertigo.
Gradual deafness.
Quick return of the hearing.

In Meniere's syndrome there is congestion and labyrinthine overflow and in Lermoyez's vertigo there is ischemia, consecutive to the arterial spasm.

Nothing is more debatable, however, than the pathogeny of Meniere's disease.

Kobrak ascribes the pathogency of Meniere's vertigo to angioneurotic fits of the eighth pair of cranial nerves, depending on two principal causes: (1) a great instability of the vago-sympathetic system, and (2) a local labyrinthine trouble.

By experiments with pharmacodynamic substances (atropin, pilocarpin, adfenalin) Kobrak tries to find in each individual case whether it is a question of vagotony or one of sympathicotony.

The vasomotor stasis of the vestibular artery may cause a giddy sensation apart from any other manifestation. All this agrees with the opinion that vertigo is essentially a phenomenon of irritation.

All otologists know that vertigo disappears with the destruction of the labyrinth and that an irritation of the internal membranous ear or of the vestibular nerve is necessary to cause the giddy sensation.

One sees, on the other hand, the reflex vasodilatation which locally accompanies the least irritation of the tympanum and which, when this irritation is too violent, also produces vertigo.

These show well the connection which exists between the vertigo and the phenomena of vasodilatation in the area of the labyrinth.

There are operations on the internal ear for this vertigo but it may not be an operative condition but a medical disorder, treatable by drugs acting on the vasomotor system through the sympathetic nerves.

From this rapid review of the different affections of the labyrinth in which one has brought in, from a pathogenic point of view, the probable existence of vasomotor troubles, one must separate some precise ideas:

Vertigo, when a sign of vestibular suffering is produced by the sudden vasodilatation which follows the spasm in the syndrome of Lermoyez.

The vertigo which, on the contrary, accompanies a rather pronounced ischemia of the labyrinth, disappears after sympathicectomy, the consequence of which is a vasodilatation of the labyrinth.

Tinnitus means cochlear suffering and follows apparently the same rules, being produced either by vasoconstriction or by vasodilatation; it may be cured or ameliorated, according to the case, if one provokes in the region of the labyrinth the vascular action contrary to that which causes it. (This opens a new method of treatment of tinnitus aurium.

Vestibular reflectivity seems to be precisely

proportioned to the vasomotor modifications. To vasodilatation corresponds hypoexcitability—to vasoconstriction, hyperexcitability. The cocheal responses are different.

Deafness appears to accompany ischemia of the anterior labyrinth and is caused by vasoconstriction. Sometimes it may be ameliorated or disappear by the action of the vasomotor phenomenon, contrary to that which caused it, that is to say, the vasodilatation. (The areoplane method of restoring hearing.)

Is it possible to select from these scattered observations a clinical syndrome of the vascular spasms of the internal ear? I think that we may now settle the chief symptoms.

The angiospasmodic syndrome of the labyrinth will consequently include; (1) Tinnitus; (2) deafness, vestibular hyperexcitability; (3) sympathetic hypertony. These symptoms consitute a constant syndrome with certain modifications; due to the particular ground submitted to the vasoconstriction; anterior labyrinth, posterior labyrinth, or both together.

Besides this syndrome of arterial resistance or hypertonicity of the labyrinth, we must place the syndrome of hypotony or laxity, in which we shall meet the classical signs of the sensorial suffering, but with vestibular hypoexcitability and sympathetic hypotony.

These two syndromes, Lermoyez and Meniere, may, moreover, succeed each other alternatively in the same patient.

According to the individual one observes, in fact, different reactions of the vegetative system under the influence of various causes.

The most diverse causes will be found as the origin of the vagosympathetic troubles and hence of the labyrinthine vascular spasms. The causes may be either mechanical, endocranial, toxic or even simply phychic.

The most important cases susceptible of acting on this regulating apparatus are undoubtedly the action of the nervous system and the action of the endocrine glands, above all, the harmone of the suprarenal gland—adrenalin.

(Long ago it was found that atropin benefitted some cases and adrenalin others. This discussion gives us at least a basis for further work on our treatment of cases of vertigo and tinnitus.)

SOCIETY REPORTS

YORK COUNTY MEDICAL SOCIETY MEETING

The regular bi-monthly meeting of the York County Medical Society was held the night of June 12 in the Johnson Hall at Winthrop College. We invited Drs. J. W. Jervey, Hugh Smith and E. A. Hines to be present and give us papers at this meeting. All were present and gave our society a very pleasant and profitable entertainment. We had seventeen of our members present and Dr. V. K. Hart of Charlotte as visitor. Dr. C. B. Harrell who has recently moved to Rock Hill was a guest.

The President, Dr. Norma Dunning, after appropriate remarks about how pleased we were to have these visitors with us and especially on such a stormy night introduced the first on the program, Dr. Hugh Smith whose subject was "Diagnosis of Cholecystitis." Dr. Smith first described the normal action of the gall bladder in response to the secretions of the stomach, the enzyme of the duodenum; the nerve control of the gall bladder and its emptying of the bile through ampulla vater into the duodenal contents; the signs and symptoms of cholecystitis. He very nicely differentiated the symptoms of this pathology with those of neighboring organs. The fact that its symptoms are more continuous, less intermittant and not relieved by antiacids and diet treatments. He has found the intravenous administration of the dye of great help for Rontgenography. This paper was discussed by Drs. Herlong, Ward and Dunning.

The next on the program Dr. Jervey in his introductory remarks praised this Piedmont section for its men of the past, praised the food commission for the wonderful work done by Dr. Wm. Weston and his co-laborers. There is a reason why the Palmetto Regiment gave such a memorable account of themselves in the Mexican War when after their request to die, "near the flashing of the guns," they were able to be the first to wave the banner of the Palmetto Regiment over the City of Mexico on September 13, 1847. The same courage, bravery and endurance was shown in the Civil War. Yea, the boys from this very section were too much for the strong Hindenburg line when the Thirtieth Division charged it. In all likelihood our iodine content proven higher than in any part of the United States is a determining factor. Next Dr. Jervey introduced two case reports of post diphtheria paralysis following tonsil and adenoid removal the 12th week after the attack of diphtheria that had been treated with the antitoxin. One case proved fatal. These were interesting because of the long interval following the attack of diphtheria. The next two case reports were of asthma due to ethmoidal and maxillary infections. They were definitely proved to be cured after a conscientiously painstaking and thorough removal of all the infected cells. Dr. Jervey's last case report was that of a cerebro spinal rhinorrhea meningitis complication. This case ran a classical picture of meningitis, was repeatedly given intraspinal injections of antimeningococcic serum. It had a continuous dripping from the nares. Both the stock and autogenous serum were used. Patient recovered, in all likelihood due to the drainage through the cribriform plate of the ethmoid. Dr. V. K. Hart very ably discussed Dr. Jervey's cases, especially the last case.

Dr. E. A. Hines was next on the program. Title: "Enlarged Outlook for Organized Medicine." Dr. Hines told of South Carolina being among the first to start organized medicine in the U. S., of our fine charactered men who by their influence had the A. M. A. come to Charleston with their fifth meeting. He gave a bright future to organized medicine in South Carolina through plans of reorganizations of State and County units along economic lines that he hoped soon to see in effect. He showed how it should help to make the program of our State Medical meetings less made up of specialists and more general men on the program.

W. K. McGill, M. D., Secretary.

REGULAR MONTHLY MEETING OF THE SPARTANBURG COUNTY MEDICAL SOCIETY, HELD AT GENERAL HOSPITAL, MONDAY, JULY 29, AT 8 P. M.

The regular monthly meeting of the Spartanburg County Medical Society was held Monday, July 29, at 8 P. M. at the General Hospital. The minutes of the previous meeting were read and approved.

Dr. W. A. Mulherin, of Augusta, Ga., delivered a very interesting lecture on acute rheumatic fever. Dr. Mulherin stated that acute infectious arthritis, endocarditis, and chorea were due to the same infection and very different from adult rheumatism. Very often a heart murmur is the first symptom or sign; it may precede the fever and often found before the child complains of pains in the joints. Rheumatic fever is usually seen in children over five years of age. The child should be put to bed and kept there until all

fever subsides. Infected teeth and tonsils should be removed.

Dr. W. W. McKibben delivered an interesting discussion concerning the value of vaccines and serums. Dr. McKibben said that convalescent serum was of value in anterior poliomyelitis and measles, cold and flu vaccine was often good as a prophylactic, erysipelas and scarlet fever serums were good in treatment of these two diseases but should not be used as preventitives, rabies vaccine should be given if there is any doubt, babies should receive smallpox vaccination at 3-6 months, and diphtheria toxin-antitoxin at 6-12 months, whooping cough vaccine should be used as a prophylactic and also large doses of fresh vaccine frequently repeated are of value in the treatment of whooping cough.

In answering questions asked by Drs. D. H. Smith, G. E. Thompson, and S. O. Black, Dr. Mc-Kibben replied that he did not know the exact value of polyvalent serum in the treatment of sore throat, that he also did not know the exact duration of the immunization following injections of rabbies vaccine, but that it was probably two to twelve months, and that usually intubation was all that was necessary in the treatment of laryngeal diphtheria.

Dr. Oren Moore of Charlotte gave a very instructive discussion of pre-natal care. He stated that prospective mothers should be warned against dancing, surf bathing, long automobile trips, especially in the early months of pregnancy. Dr. Moore also stated that therapeutic abortion did not relieve the thyroid toxemia of pregnancy, but x-ray treatments over the thyroid gland should be given.

Dr. F. H. Richardson emphasized the need of educating the public by newspaper articles, radio talks, and moving pictures, and also the need of educating the medical profession and commended the lecture courses given at Statesville, N. C.

Dr. D. L. Smith moved that the resolution of the Charleston County Medical Society regarding registering those doctors who have passed the National Board of Medical Examiners without fee or examination be adopted by this society. Motion was seconded and carried.

The Secretary emphasized the need and desirability of the Society owning a Medical Directory. Dr. S. T. D. Lancaster moved that the Treasurer be authorized to buy a directory. The motion was seconded and carried. There being no further business the Society adjourned.

S. O. Black, President, W. M. Sheridan, Sec.-Treas. REGULAR MONTHLY MEETING OF THE SPARTANBURG COUNTY MEDICAL SOCIETY, HELD AT GENERAL HOSPITAL, FRIDAY, JUNE 28, AT 8 P. M.

The regular monthly meeting of the Spartanburg County Medical Society was held Friday, June 28 at 8 P. M., at the General Hospital. The minutes of the previous meeting were read and approved.

Dr. E. W. Carpenter of Greenville, S. C. gave a very interesting discussion of the maxillary sinus and showed some lantern slides. Dr. Carpenter stated that the maxillary was more frequently infected than any other sinus. In making a diagnosis of infection of the maxillary sinus lipiodol injections had been found of great value.

Dr. Wm. Allen of Charlotte, N. C. reported two cases of typhoid spine and emphasized the value of typhoid vaccine in the treatment of this condition, the exquisite pain being usually relieved after one or two injections.

Dr. Allen showed some very interesting slides of these two patients and also of x-ray films.

Dr. J. P. Kennedy, Charlotte, N. C., gave a very able discussion of the treatment of the different infections of the hand. Dr. Kennedy emphasized the danger of a cut, abrasion, or furuncle on the back of the hand. On account of the abundant lymphatics infection spreads rapidly up the arm. The hand and forearm should be splintered and hot wet dressing should be applied continuously Incisions should not be made until the infections show areas of localization.

Dr. Kennedy stated that infection in the connective tissue produced a felon, paronychia, or palmar abscess, and discussed the treatment of these and also infection of the tendon sheaths.

About thirty members and five visitors were present. The visitors were Drs. Sheriff, Jordan, Murray, Tyler, and Carpenter. Drs. Murray and Tyler recommended the establishment and maintenance of a publicity department to be run in conjunction with the State Board of Health. Dr. Tyler suggested that the physicians in each county make an effort to interest the county delegations in order that an appropiation of fifteen thousand dollars might be made to hire a full time director and send out bulletins, and also utilize the press, moving pictures, radio, and normal schools in spreading health information. Dr. Tyler invited the Spartanburg County Medical Society to visit the Greenville County Medical Society when they decided to have a health meeting. Dr. Finney moved that the Spartanburg County Medical Society accept Dr. Tyler's invitation. The motion was seconded by Dr. Carter.

Drs. Hilla Sheriff and W. B. Jordan were nominated members of the Spartanburg County Medical Society.

The Secretary read letters from the Director

of the Bureau of Vital Statistics of the State Board of Health urging that all births be registered, and from Dr. W. Atmar Smith of the Charleston County Medical Society urging the Spartanburg County Medical Society to ask the State Board of Medical Examiners to admit those who have passed the National Board of Medical Examiners without fee and without examination. Action on these matters was postponed until the next meeting of the Society. There being no further business the Society adjourned.

S. O. Black, President, W. M. Sheridan, Sec.-Treas.

SEVENTH DISTRICT MEDICAL SOCIETY TO MEET

Sumter, S. C., August 12, 1929.

Dear Doctor:

Like the Graf Zeppelin and the endurance fliers, medicos have been up in the air (financially speaking) for some time. But things look a little better now for a satisfactory landing, although, unlike the fliers, in order for us to come down nicely we must have a big Fall!

May be "I'll pay you in The Fall" will prove to be more than a cheerful lie this time.

Anyway, we can live in hope, and all have a big time in Sumter exactly one month from today. Yes, that's the date for our annual meeting of

the Seventh District Medical Association, September 12th, the second Thursday in the month.

We are planning to have some good papers from our own members, as well as from other men in this, and from other states. Please let the Secretary have the title of your paper by September 1st, and do not forget that you are expected to join in on the report of clinical cases.

With kindest regards, and best hopes for a great meeting,

Yours very sincerely,
CARL B. EPPS, M. D.,
Secretary-Treasurer.

H. A. Mood, M. D., President.

SITUATIONS WANTED

......

WANTED: Salaried Appointments for Class A Physician in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchauge, 30 North Michigan. Chicago. Established 1896. Member The Chicago Association of Commerce.

······

MINUTES

.......

REPORT OF COUNCILOR—FIRST DISTRICT

TO HOUSE OF DELEGATES South Carolina Medical Association, Gentlemen:

It gives me pleasure to be able to report that the First District is in an excellent condition. Some of the Counties whose interest was not up to the usual standard have given evidence of renewed enthusiasm by larger and more regular meetings.

I feel confident that had it not been for the excessive rains damaging the roads in the district that there would have been more and better meetings throughout the year.

The prospects for the year are perhaps brighter than ever before. The roads which, in the past, offered an almost insuperable barrier have in large part been hard-surfaced, so that I feel that we are now in position where frequent and well attended meetings are practically assured.

Your Councilor has made every effort to visit every County Society at least once and to attend the District meetings. The success of my efforts was seriously interferred with owing to sickness in my family but I have succeeded in visiting all Societies except one.

The Medical Society of South Carolina (Charleston County Medical Society) has 87 members enrolled. Held 18 meetings during the year with average attendance of 34. Effort is being made to provide an attractive program and from time to time, distinguished men in the profession are invited to address the Society. The Scientific work of this Society is on a very high level. There are four eligible physicians not enrolled. There are four chiropractors, one osteopath and one or two illegal practitioners, graduates of regular schools.

The Colleton County Medical Society has a membership of eight with six meetings during the year with average attendance of six or seventy-five per cent. There are no eligible physicians not enrolled, no chiropractors, no osteopaths two illegal practitioners, graduates of regular schools.

The Beaufort-Jasper Society has an enrollment of nine, had four meetings during the year with average attendance of seven or 58 per cent. One eligible physician not on roll, no chiropractors, osteopaths or illegal practitioners.

The Dorchester County Society deserves to be commended. Renewed enthusiasm is evidenced by having 11 meetings, membership of 7, average attendance of 5, average attendance of 72 per cent. They report three eligible practition-

ers not members. No illegal practitioners, chiropractors, osteopaths.

Berkeley County Society had eight meetings, membership of 6, average attendance of 4, or 46 per cent. There are no illegal practitioners, chiropractors or osteopaths, and no eligible practitioners not members.

There were two district meetings during the year. (The attendance was 37 at one and 23 at the other meeting. At both meetings, the program was full and the papers of a high order and well discussed.

In conclusion, will say that the prospects for next year are brighter than in many years.

Respectfully submitted,

J. H. Cannon, M. D.

Report of the Councilor of the Second District

Mr. Chairman and members of the House of Delegates of the South Carolina Medical Association I herewith submit my annual report as Councilor of the Second District, comprising the counties of Aiken, Edgefield, Lexington, Richland and Saluda.

A report from Aiken does not show very much. Very small attendance at their meetings, six meetings a year, no irregulars, eight members, 23 eligible that are not members, and no illegals.

The Association known as the Ridge Association comprising the counties of Edgefield, Lexington and Saluda report twenty enrolled with two honorary members. Twenty-two eligible physicians that are not members. They meet every two months, making six meetings a year. They are pretty active and display considerable interest.

Richland County, which appears under the name of the Columbia Medical Association report one hundred and four members and with twelve meetings a year, average attendance of thirty-two. No illegals, one regular not eligible for membership, three show to be regular, probably eligible but are not members. This Society maintains a very full scientific program. They have from one to three good papers or scientific discussions each month.

As we have already stated Aiken shows very little interest in scientific organized medicine.

The Ridge Association displays quite a bit of interest though the report shows a large number of eligibles that are not members. We have put forth every reasonable effort to create greater interest in all the Counties, but so far have failed to better conditions.

As to Richland County, we haven't quite one hundred per cent but nearly so, about as good as we can hope for.

Our District meeting meets twice a year; generally very well attended and usually have a very good scientific program though I am strongly of the opinion that one meeting a year would be productive of more good and I propose at our next meeting to recommend such a change.

Respectfully submitted,

Sam'l E. Harmon, M. D., Councilor.

Report of the Councilor of the Third District

The Third District is composed of Abbeville, Greenwood, Laurens and Newberry Counties. McCormick, that was formerly with this District, has withdrawn and its members united with their neighboring counties. This was done on account of their small membership and all interested agreed that it would be of greater interest and profit to them.

Compiling the reports of the Secretaries from the respective societies, I find, the Third District is still full of enthusiasm and activity. Harmony and good will exist and it seems to me now that the sentiment of our District is cooperative service instead of commercial competition. This sentiment, prevailing throughout the profession, no doubt, in my mind will dignify the ethics of the profession and promote its efficacy. We find our societies have had more regular meetings, and special meetings have been had for the interest and pleasure of the different societies.

Following the report of the secretaries further we have the information below:

A total membership of eighty.

Total meetings for the year, forty-four.

Total number of eligible physicians not enrolled, eleven.

Chiropractors, one.

Osteopaths, none.

Illegal practitioners, none.

This report, I think, represents a very creditable showing of the work and interest in our District.

We always have the regular annual Third District meeting, held last year at Greenwood, with a barbecue. This year we go to Laurens and we expect to give the usual successful meeting.

Respectfully submitted.

T. L. W. Bailey, M. D., Councilor.

Report of the Councilor of the Fourth District

Mr. Chairman:

I beg to submit, herewith, my report as Councilor of the Fourth District.

Score cards were received from the following County Societies comprising this District:

Oconee, Pickens, Anderson, Spartanburg, Union and Greenville.

Oconee County reports meetings held quarterly with an average attendance of 10 and a total enrollment of 16; no irregulars. Speakers are invited from outside the County to address the members on subjects of interest. One meeting during the year was held jointly with the Women's Auxiliary. Oconee County entertained the members of the Fourth District Society at their annual meeting in October, when an interesting program was carried out.

Pickens County reports an enrollment of 18, an average attendance of 50%; 12 meetings were held during the year in various parts of the country. Papers and case reports are presented by the members. There are two eligible physicians not on the roll; no irregulars, no Chiropractors or Osteopaths.

Anderson County reports an enrollment of 51 members with an average attendance of 20 to 25%. Eleven meetings during the year were held. Papers and case reports are presented by the members. Each meeting is followed by a luncheon. A spirit of fraternalism and good fellowship prevails to a remarkable extent.

Spartanburg reports meetings each month with a total enrollment of 59 and an average attendance of 50. There are 52 eligible physicians not enrolled. Papers and case reports are presented by the members. Several speakers of distinction have been invited to address the Society during the year. On these occasions members of the adjoining County Societies have been invited to meet with them. It has been the custom of this Society to entertain its guests at supper following such meetings.

Spartanburg County has done much during the year to foster good feeling with the various societies of this District.

Cherokee County reports 8 meetings held during the year. They have a total enrollment of 14 with an average attendance of 9. This small Society is to be commended for its increased activities, the organization and operation of this Society has been of much benefit to the profession of this County.

Greenville County Society reports 13 meetings during the year with a total enrollment of 94 and an average attendance of 40 to 45%. A variety of programs are carried out; occasionally some speakers are invited to address the Society. Such meetings are usually followed by suppers. Members of the adjoining County Societies are invited to these meetings as the guests of the Society and its members. There are 4 eligible physicians in the County not enrolled; 3 Chiropractors and 4 Osteopaths are in this County. There are no illegal practitioners.

Union County: Reports from this Society give a total enrollment of 10 with an average atten-

dance of 6. Very few meetings were held during the year. There are 4 eligible physicians in this County not enrolled. There are no Chiropractors or Osteopaths.

There are 341 eligible physicians in the Counties comprising the Fourth District, with a total enrollment of 262, a gain of 24 enrolled and a gain of 28 in the total number of those eligible, during the year 1929. About 80% of these eligible physicians are enrolled.

It is to be regretted that Spartanburg County continues to show a very large number of physicians not enrolled; this, however, is to some extent explained by the very large area embraced in this County. There are many small towns situated at some distance from Spartanburg. There are many men in these towns who appreciate the benefit of organized medicine who should in some way be reached.

It is very gratifying to note that Oconee and Cherokee Counties report an enrollment of 100%.

During the year all County Societies were visited by me, and I am glad to be able to report a 100% organization of the Societies in this District. The meetings attended were of considerable interest; a regular program was carried out at these meetings with the exception of Union and Cherokee Counties, which Counties were visited at a call meeting.

Dr. R. E. Hughes, our President, was kind enough to visit these Societies with me, and we were cordially welcomed by the membership. Practically all members were present and an hour of interesting discussion was engaged in at all meetings.

The Fourth District Society held its annual meeting with the Oconeee County Society at Seneca in October. A very large number of doctors was present. The day's program was well filled, several most excellent papers were presented. The members and guests were entertained at dinner by the Oconee Society.

The following quotation taken from the lay press prompts me to offer this suggestion: That one meeting a year of each County Society be devoted to the subject of organized medicine:

"The individual doctor has no grievance against any charitable organizations except where such organizations advertise unfairly and by so doing draw such tremendous number of patients that they gradually undermine the very existence of the private doctor. Instead of finding only the poor and needy at clinics we find great number of people well able to afford a private physician. Whenever the problem of medical fees is discussed, the doctor comes in for the most severe criticism and abuse. He is painted as less ethical than mercenary and as forgetting all the noble precepts of his profession. Yet he is still continuing to give his services gratis to the thousands of free, reputable clinics through the hospital a serv

ice which no other profession or business renders \dots ."

Respectfully submitted, R. C. Bruce, M. D., Councilor, Fourth Med. Dist.

Report of the Councilor of the Fifth District

York: This County has thirty-one members on the roll. There were four meetings during the year with an average attendance of fifteen. There are two eligible physicians not on the roll. There is one chiropractor in the County.

Lancaster: This County is not organized at present. There are about fifteen doctors there.

Kershaw: This County has a membership of thirteen with twelve meetings during the year and an average attendance of ninety per cent. This Society deserves special commendation for the character of its scientific programs and the large attendance.

Fairfield: This County has four members with only one meeting during the year. There are eight eligible physicians not on the roll.

Chester: This County has four members, two meetings during the year with an average attendance of eight. Three eligible physicians not on roll. There are three chiropractors in the County.

An unusually successful District Meeting was held at Chester with a large attendance of members from the various counties and Officers of the State Medical Association.

> Respectfully submitted, J. R. Desportes, M. D., Councilor.

Report of the Councilor of the Sixth District

The Sixth District is composed of the counties bordering on the Great Pee Dee River and Horry County.

There has been increased interest in medical affairs and all of the Societies are organized and functioning.

The Pee Dee Medical Society, the official Society of the district, meets at Florence, once yearly, and is always well attended and enjoyed. It is the second oldest medical Society in the State, Charleston being the older.

Florence County Medical Society: Dr. James McLeod, President, Dr. P. D. Hay, Jr., Secretary, both of Florence, S. C. Has thirty members enrolled. Has five meetings during the year, with an average attendance of twenty-five. They serve a banquet with each meeting, and have a visiting specialist along with the local men on the program. Number of eligible physicians not on roll, eighteen. Number of Chiropractors, none. One Osteopath. No illegal practitioners graduates of regular schools, though there is one who has neither diploma or County license.

Darlington County Medical Society: Dr. E. H. King, Hartsville, President, and Dr. Julian T. Coggeshall, Darlington, S. C., Secretary. Has fifteen members on roll, has four meetings during the year, with an average attendance of ten. There are Five eligible physicians not on roll. No Chiropractors, no Osteopaths. No illegal practitioners.

Chesterfield County Medical Society: Dr. D. C. Griggs, President, Pageland, S. C., Dr. R. L. Gardener, Chesterfield, Secretary. Twelve members on roll, twelve meetings a year, with an average attendance of seven. There are three eligible physicians not on roll. No Chiropractors, no Osteopaths. One illegal practitioner.

Marlboro County Medical Society: Dr. L. R. Kirkpatrick of Bennettsville, President, Dr. D. D. Strauss of Bennettsville, Secretary. There are fourteen members on roll, with eight meetings a year and an average attendance of eight. One paper by a local member is read and case reports presented and discussed by all present. There are two eligible physicians not on roll. One Chiropractor, no Osteopaths. No illegal practitioners.

Dillon County Medical Society: Dr. John B. Setzler of Dillon, President, Dr. S. C. Henslee of Dillon, Secretary. There are eight members on roll, have one meeting during the year, with an average attendance of five. There are two eligible physicians not on roll. Two Chiropractors. No Osteopaths. No illegal practitioners.

Marion County Medical Society: Dr. D. W. Green, President, Mullins, S. C., Dr. H. K. Jenkins, Secretary, Mullins, S. C. There are fourteen members on roll, two meetings a year, with an average attendance of ten. They have started monthly meetings with two case reports thoroughly worked out, with laboratory findings, completely discussed at each meeting. There is one irregular in the County. One eligible physician not on roll. No Chiropractors. No Osteopaths. No illegal practitioners.

Horry County Medical Society: Dr. J. D. Thomas, Loris, S. C., President, Dr. Paul E. Sasser, Conway, S. C., Secretary. There are fourteen members on roll, two meetings a year, with an average attendance of seven. There is one eligible physician not on roll. No Chiropractors. No Osteopaths. No illegal practitioners.

In reference to the illegal practitioner reported to me from Florence County, will say, that I investigated the report, and it was found that the offender was a woman a Mrs. Lee McDaniel, Jr., who resides in Florence County near Hemingway, and that she was doing real harm by reason of ignorance or otherwise. One case reported was her treatment of a young woman for prolapsed uterus, in which she assured the patient that she had replaced it and she would be O. K. A few days later a physician was called and found the woman to be suffering from an

acute appendix, which on operation was found by the surgeon to have been ruptured for several days, and came very near losing her life.

It was suggested to me that perhaps the best way to handle this case would be to try and get a restraining order from the presiding Judge in her District, and we succeeded in getting an order of Court from Judge Shipp, restraining her from practicing medicine without a license. Thus putting the burden of proof on her shoulders, and if she failed a permanent injunction would be issued, which if violated she could be held for contempt of court criminally and sent to jail. A hearing was ordered before Judge Shipp in Florence on April 20th, and through her attorney, she admitted that she was a resident of Florence County, and that she is neither licensed or legally registered as a medical practitioner; but denied that she is or has been practicing medicine against the statutes provided there for. This made it a question of fact, rather than one of law, and consequently Judge Shipp did not have the jurisdiction to decide it.

Accordingly our attorneys have secured from the Court a restraining order and injunction directed against this party, enjoining her from the further practicing of medicine within this State until after this case, can be fully heard in detail and decided on its merits. My bond of \$100.00 was required and given to indemnify this defendant against damages. This, frankly is all we need or want, as the case must remain in this status until a further order of the Court, and it is our opinion that the whole matter is perhaps ended where it is and that it will never come up on its merits for any testimony to be actually taken, and the lady will thus remain permently enjoined. If, however, the defendant pushes later for a hearing, it will be an easy matter to get the required data and witnesses to prove our charge.

I employed Attorneys Riley and Bellinger of Bennettsville, to do this work, and there is a small actual expense connected, if there is a fund provided for such expense, would like for this small bill to be paid, if there is not a fund would ask that that there be one provided and that the association order it paid.

Respectfully submitted,
C. R. May, M. D.,
Councilor of the Sixth District.

Report of the Councilor of the Seventh District

The district meeting was entertained by the Clarendon County Association. We had about thirty present, and one of the best district meetings we have ever had.

Clarendon County, reports that it is uncertain as to the number on the roll as most of the men send their dues direct to the State Secretary. Number of meetings in the year three, average attendance 5-8. Have difficulty in getting a good percentage of members to attend meetings. One Chiropractor.

Georgetown County, the secretary's report is: "No election of officers or meetings during the year." On roll 5, no quacks.

Lee County, 8 members, 2 meetings year, attendance 5, one eligible not on roll.

Sumter County, number 21, meetings 10, average attendance 10, 4 eligible not on roll, chiropractor one.

Williamsburg County, 8 members, meetings during year four, average attendance 5, eligible not on roll 7, one chiropractor, one illegal practitioner.

Respectfully submitted, T. R. Littlejohn, M. D., Councilor.

Report of the Councilor of the Eighth District

To the House of Delegates of the South Carolina Medical Association.

The Councilor of the Eighth District respectfully submits the following report:

The Eighth District embraces the Counties of Allendale, Bamberg, Barnwell, Calhoun, Hampton and Orangeburg, all of which have active medical societies except Calhoun whose few physicians we urge to affiliate with the Orangeburg Society.

Allendale has seven members on roll, two eligible physicians not on roll, no chiropractors, osteopaths or illegal practitioners.

Bamberg has ten members on roll, no eligible physicians not on roll, no chiropractors, osteopaths or illegal practitioners.

Barnwell has eleven members on roll, no eligible physicians not on roll, one chiropractor, no osteopaths or illegal practitioners.

Hampton has ten members on roll, five eligible physicians not on roll, no chiropractors, osteopaths or illegal practitioners.

Orangeburg has twenty-seven members on roll, nine eligible physicians not on roll, one chiropractor, no osteopaths or illegal practitioners.

This makes a total of sixty-five members in the District, sixteen eligible physicians not on roll, two chiropractors, no osteopaths or illegal practitioners.

All the Societies are actively and harmoniously working.

Respectfully submitted,

J. E. Warnock, M. D., Councilor.

Elimination and Alkalinization

Two important factors in the treatment of gastrointestinal disorders of the Summer season, suggest

Magnesia-Mineral Oil (25)

Accepted for N. N. R. of the American Medical Association formerly Halcy's M-O Magnesia Oil

A pleasant, permanent, uniform unflavored emulsion of Liquid Petrolatum and Magma Mag. which is

LUBRICANT . ANTACID LAXATIVE



FORMULA: Each Tablespoonful Contains Magma Mag. (U. S. P.) 3 iii, Petrolat, Liq. (U. S. P.) 3i. Hyperacid conditions in the mouth or gastro-intestinal tract, Fermentation, Diarrhoea, Intestinal Stasis, Autotoxemia, Constipation, Colitis, Hemorrhoids. Of value before and after operation, during pregnancy and maternity, in infancy, childhood and old age.

An Effective Antacid Mouth Wash

Generous sample and literature on request

The

HALEY M-O COMPANY, Inc.

Geneva, N. Y.

The Journal

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act

Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A. HINES, M. D., F. A. C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston. S. C.

PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. C. OBSTETRICS AND GYNECOLOGY

R. E. SEIBELS, M. D., Columbia, S. C. UROLOGY

W. B. LYLES, M. D., Spartanburg, S. C.

ROENTGENOLOGY T. A. PITTS, M. D., Columbia, S. C.

PATHOLOGY AND BACTERIOLOGY H. H. PLOWDEN, M. D., Charleston, S. C.

SURGERY

C. B. EPPS, M. D., Sumter, S. C. EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY

J. RICHARD ALLISON, M. D., Columbia, S. C. GASTRO-ENTEROLOGY AND PROCTOLOGY

W. T. BROCKMAN, M. D., Greer, S. C.

NERVOUS AND MENTAL DISEASES

E. L. HORGER, M. D., State Hospital, Columbia, S. C.

MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

MEETING A. M. A. PORTLAND

The 80th Annual Session of the American Medical Association held in Portland, Ore., July 8th to 12th inclusive, was not notable for a large attendance as compared with those held in more central locations, there being only a few over three thousand registrations, however, those attending were amply repaid in many ways.

Every effort was made to provide entertainment for the visitors. That they accomplished their purpose is to put it mildly. Motor rides, boat rides, garden parties, luncheons, receptions, horse shows, etc., etc., to mention some of the features.

In the House of Delegates there were many things mentioned or considered at length that deserve thoughtful consideration by the Profession. The minutes of the sessions are published in the Journal of the A. M. A. and should be read by every member,

President Thayer in his address urged that every member get in touch with their senators and congressmen and urge their support to have the appropriation continued so as to maintain "The Index Catalogue of the Surgeons Generals Library." It is rumored that there is danger of the appropriation being discontinued and it is felt that if the members of congress and the senate were made familiar with its value there would be no question about an adequate appropriation forthcoming.

He expressed regret that there was so much reckless and ill-advised law making. His remarks in which he deplored the making of laws as to what we shall, eat, drink or as to what we may wear aroused the ire of Dr. Clarence True Wilson, who through the press denounced the President as a wet and that his election would have failed had it not been for the support of wet lobbyists, etc., this naturally resulted in considerable indignation.

President Elect Harris pointed out that the

laity are frequently misled by statements made by limited groups of physicians and are misinterpreted as the opinion of the entire medical profession. It should be borne in mind that only expressions emanating from the house of delegates of the American Medical Association carries the stamp of approval of the medical profession of the United States.

He also commented upon the article frequently appearing in the lay literature criticising the profession regarding the high cost of medical care. It should be pointed out that the medical profession is aware of the situation and has a committee at work on the problem.

Secretary West stressed the importance of the County Medical Society and urged that all the members of organized medicine give their whole hearted support to it. He emphasized the danger bound to result to the component county society, due to the members belonging to so many other organizations thereby dividing their support.

Ex-President W. A. Pusy, introduced a resolution providing for the investigation of hospitals, clinics, corporations and various other organizations practicing medicine to be reported on at the next meeting.

Various other matters were taken up and discussed such as the approval of the high standards used in the selection of examiners for recruits in aviation; investigation of the dangers of electric refrigeration; investigation of the teaching of obstetrics with the view of alloting more time to the teaching of this important subject if it is found to be needed; consideration of unethical advertising by hospitals; the gratifying increase of membership to the A. M. A. by approximately 200 members yearly for the past ten years; consideration of measures to provide means for adequate housing of A. M. A. headquarters which are badly overcrowded; approval of the National Defense Act; motion objection to proposed tariff on surgical instruments, X-Ray equipment, scientific glassware, etc.

Election of officers resulted as follows:

President, Dr. M. L. Harris, Chicago.

President Elect, Dr. W. G. Morgan, Washington, D. C.

Vice-President, Dr. E. A. Sommer, Portland, Ore.

Secretary, Dr. Olin West, Chicago. Treasurer, Dr. A. A. Hayden, Chicago. Speaker of House, Dr. F. C. Warnshuis, Mich.

Vice-Speaker of House, Dr. A. E. Bulson, Indiana.

Trustee, Dr. D. Chester Brown, Danbury, Conn.

Trustee, Dr. A. H. Bunce, Atlanta, Ga. J. H. Cannon, Delegate.

COMMENTS ON COMMITTEE APPOINTMENTS

As has been stated in a previous editorial, before the gavel fell closing the Charleston meeting, the Committee on Scientific Work for the coming year was appointed and since that time has been constantly looking toward the promotion of a great meeting to be held at Florence early in May, 1930. The House of Delegates adopted the report of the Committee on Constitution and By Laws advising that the committees be simplified and some new committees provided for. It will be noted that the committees on hospitals and medical education have been merged. A new committee on publications has been authorized. The duty of this committee will be to supervise the papers and other matter appearing in the Journal. Most of the papers read before the State Association have been published as read but there is need for a careful consideration of the scientific value of papers read before the State and constituent societies if we are to maintain a reprensentative Journal.

One of the outstanding problems particularly of the general practitioner is that of his economic status. All over the country there appears to be a demand for a clearer conception of the cost of medical care, of the part played by the general practitioner and specialist in the picture and the different phases of hospitalization. A committee, therefore, on Medical Economics has been brought into being in our State Association to study these and many other questions relating to the public and the profession.

The President has given very careful consideration to the appointment of all of the com-

mittees. It is believed that as a result we will have the best year of the State Medical Association yet recorded in all of its activities.

COMMITTEES S. C. MEDICAL ASSOCIATION 1929-30

Committee on Scientific Work

Dr.	Hugh Smith, Chairman Greenville,	S.	C.
Dr.	James McLeod Florence,	S.	C.
Dr.	Walter R. Mead Florence,	S.	C.
Dr.	Chas. R. May Bennettsville,	S.	C.
Dr.	Edgar A. Hines Seneca,	S.	C.

Committee on Public Policy and Legislation

Dr.	Thos.	A. Pitts,	Chairman	Columbia,	s.	C.
Dr.	R. S.	Cathcar	t	Charleston,	S.	C.
Dr.	Olin S	awyer -		Georgetown,	S.	C.

Committee on Public Health and Instruction

Dr.	Geo. T.	ryler, Cha	urman,	Greenville,	S.	C.
Dr.	H. Grady	Callison		Newberry,	S.	C.
Dr	William	Relecton		Harteville	C	C

Committee on Publications

Dr.	E. A.	Hines, Ch	airman Seneca,	S.	C.
Dr.	Julius	H. Taylor	Columbia,	S.	C.
Dr.	Chas.	A. Mobley	Orangeburg,	S.	C.

Committee on Medical Economics

Dr. D. Jennings, Chairman, Bennettsv	ille, S.	C.
Dr. Olin B. Chamberlain Charles	ton, S.	C.
Dr. Robt. E. Abel Ches	ster, S.	C.
Dr. T. R. Littlejohn Sum	nter, S.	C.

Committee on Medical Education and Hospitals

Dr.	F. H. McLeod, Chairman Florence,	s.	C.
Dr.	Kenneth M. Lynch Charleston,	s.	C.
Dr.	Frank R. Wrenn Anderson,	S.	C.
Dr.	G. McF. Mood Charleston,	S.	C.
Dr.	J. S. Dusenbury Conway,	s.	С.

Committee on Constitution and By-Laws

Dr.	J. H.	Cannon,	Chairman,	Charleston,	s.	C.
Dr.	Jas. S	. Fouche		_ Columbia,	S.	С.
Dr.	Edgar	A. Hine	es	Seneca,	s.	C.

Committee on Necrology

Dr.	E. M.	Dibble,	Chairman	Marion,	S.	С.
Dr.	Thos.	H. Sm	ith	Bennettsville,	S.	С.
Dr.	R. L.	Gardner		Chesterfield,	S.	C.

DEATH OF DR. WALTER G. HOUSEAL

As we go to press we learn of the death of one of the most active and loyal members of the South Carolina Medical Association. This news will be received with the keenest regret by every member of the Association and by a large number of friends throughout the State. Dr. Houseal early in his professional career began to work for the best interest of organized medicine. He held many positions of honor in his county, district and the State Association. Dr. Houseal will be greatly missed by his professional brethren. An extended notice will be published later by the Necrology Committee.

THE MARLBORO COUNTY GENERAL HOSPITAL

First Hospital in South Carolina built with aid of the Duke Endowment, how provided for, construction, equipment, management

In "The State" of August 11th appeard an editorial comparing hospital and medical care in South Carolina with other states of the Union, and it was stated that South Carolina ranked forty-eighth, or last, in point of hospital beds and physicians per thousand population. The editorial mentioned was based on figures complied by Dr. W. S. Rankin, Director of the Hospital Section of the Duke Endowment. Therefore, it should be of interest to the medical profession of this State to learn of the development, construction, and operating management of the first county hospital to be erected with the aid of the Duke Endowment in South Carolina.

In November of 1927 a small group of interested citizens of Bennettsville agreed to underwrite the expenses of a campaign, to be conducted by an institutional financing firm (Bard, Hoffsommer, and Williams of New York), for the purpose of raising funds with which to build and equip an hospital. Dr. Rankin of the Duke Endowment was invited to make an address to a mass meeting in opening the campaign, and he made the startling announcement that his organization had some surplus funds to be used in aiding communities to erect hospital buildings. His announcement, do doubt, assured the success of the campaign, and the citizens of Marlboro County subscribed the sum of \$66,640. Of this amount approximately \$50,000 has been



Marlboro County General Hospital, Bennettsville, S. C.

collected. The Duke Endowment gave \$25,-000 building aid, and when the building was completed the Trustees very generously appropriated for us another \$25,000 for equipment and completion of the building.

The Marlboro County General Hospital has a normal bed-capacity of thirty-five, but it is so arranged as to be able to care for about forty-five or fifty patients without uncomfortably crowding. The building consists three floors, the ground floor housing the kitchens, refrigerator room, boiler room, serveries, dining-rooms, storage and accident rooms, x-ray and laboratory departments, and the section for the care of colored patients. The second, or main floor, provides administrative offices, reception rooms, superintendent's quarters, and patients quarters, including a pediatric ward. On each end of this floor is a large and airy sun-parlor. The third floor houses the maternity and female surgical departments, the nursery, and the operating department with major and minor operating rooms, delivery room, dressing and sterilizing rooms. On each end of this floor is a large, uncovered, open porch. The building is provided with all modern conveniences and appointments that an hospital should have, and it is one of the best and most modernly equipped hospital buildings in the South.

The management of this institution is in the hands of a self-perpetuating Board of Trustees selected so as to represent each section of the County. The Executive Committee (3) of this Board have actual control of the hospital affairs, and the Superintendent, a very efficient and capable one, is the Executive Officer of the Board of Trustees. The medical and surgical work is controlled by the Active Staff, composed of the members of the Marlboro County Medical Society, and outstanding men of the profession in the Carolinas have been invited to become members of the Consulting Staff. Dr. Charles R. May, President of the South Carolina Medical Association is Staff, Dr. P. M. Kinney vice-Chief-of-Staff, and Dr. Douglas Jennings is Secretary. Practically all of the work is done by members of the Active Staff, occasionally a member of the Consulting Staff being called upon to operate on or treat a patient.

The Board of Trustees have on hand a fund, appropriated in the County Supply Bill, for the treatment of charity patients from the County. The Duke Endowment contributes \$1.00 per day for each free and part-pay patient. With this help, the institution will, no doubt, be self-sustaining and we do not contemplate having to go before the people in an election to ask for a tax levy for the support

of the hospital. Charity patients from out of this County are cared for at the rate of \$3.50 per day, the Duke Endowment paying \$1.00 per day of this and the County from which they come being asked to pay the balance. No professional fees are charged patients admitted as charity cases.

Marlboro County is very proud of her new, modern hospital building and equipment, as evidenced by the throngs which visited the building on Opening Day, July 2nd. Quite a large number of visitors from out of the County, including many members of the medical profession, called and were shown over the

plant. All of these were most cordial and liberal in their congratulations on the splendid building and equipment.

The Board of Trustees and the Medical Staff will be very pleased to give any information as to the developing, financing, planning, construction, equipment, or management of this institution. Anyone desiring such information may address Dr. Douglas Jennings, Bennettsville, S. C., Secretary of the Medical Staff, who was the leading spirit in beginning and carrying forward this movement to secure a public-owned hospital in Marlboro County, aided by the Duke Endowment.



PRESIDENT'S PAGE

By C. R. May, M. D., President South Carolina Medical Association

The last census of physicians of South Carolina taken from the Medical Directory of the American Medical Association gives us one thousand three hundred and three, which is about two hundred less that the census of several years ago. And out of that number we only have seven hundred and ninety-three enrolled as members of the South Carolina Medical Association, surely out of thirteen hundred physicians practicing medicine in the State we should have more than seven hundred and ninety-three enrolled. It is my great desire and hope that we may be able to increase our membership largely by the next meeting of the State Association.

I should like to have a correct census made of the Number of Physicians actually practicing in the State, the kind of work they do, also those that are too old, or are retired, the number of ineligible and those that are eligible to join the medical association, the regulars and irregulars. I think that I will ask the Councilors of each district to get up the exact data required, through their County Secretaries, asking them to go to some trouble if necessary to obtain the data. Having been a Councilor myself I know that in many instances the information from the different counties does not check up properly. I would be glad if each Councilor, Secretary and member of the South Carolina Medical Association, try to aid us in every way possible to get up the correct data, so that we may know how to proceed intelligently in the work of organization and increased membership, thereby giving us a bigger and better Association.

I had the pleasure in June of attending the meeting of the Newberry County Medical Society at their beautiful Newberry County Club. They were there from every County in the district. They had a fine spirit of friendly cooperation, and the program was excellent. One of the most delightful barbecues that has ever been my pleasure to attend was served in the spacious dining room of the Club. Those physicians do entertain handsomely besides being up to date doctors.

Last month I attended a meeting of the Darlington County Medical Society at Hartsville. They met in the afternoon and a splendid supper was served at the Hotel. Good papers were read, and discussed, every one taking an active part in the discussions. All local talent.

On September 12th I attended the Seventh District Medical Meeting at Sumter. They met in the Junior School Building, one of Sumters numerous and beautiful school buildings. The meeting was largely attended. They had a wonderful program. There were many distinguished guests from other States who read papers or talked on Medical subjects. The subjects discussed were of great importance and one could not help being impressed with the characters of the papers and the thorough and efficient manner in which they were rendered. They also served a fine dinner at the Hotel and finished the meeting there.

I hope to attend and enjoy many more meetings during the year in the various districts and I want to stress the fact that Organization (more members) is an important necessity of our Association, and the many and varied conditions that come before us can not be handled effectively unless we have strength and cooperation.

ORIGINAL ARTICLES

THE PHYSIOLOGY OF THE KIDNEY WITH SOME CLINICAL APPLICATIONS

By J. Van de Erve, M. D., Charleston, S. C.

The kidney writes the last chapter in the history of body metabolism.

In the body economy, spite of the tragic abuse to which, in common with all the vital organs, it is gratuitously subjected, it plays its part with a dexterity that is surprising and an ingenuity little less than amazing. It ranks next to the brain and the liver in versatility of its adaptive work, in the cleverness of its correlative activities, in its sensitiveness and facile response to the metabolic needs of the individual organs and the organism as a whole.

The highly specific office assigned to it demands a highly specialized architecture, and the great Architect of the Universe laid down on his trestle-board a design that is as simple and elegant structurally as it is characteristically capable functionally.

Its architectural uniqueness is initially emphasized in its embryological derivation. For it develops, not from the endoderm as do the body's secreting glands, but from the mesoderm, from the surface of the coelome.

In no other organ of the body is our interpretation of its functions so dependent on an intimate knowledge of its histological structure as in the kidney.

For the purpose of this paper it suffices to call attention only to the gross and microscopic anatomy of the uriniferous or renal tubule, its blood and lymph supply, and its innervation.

The renal tubule begins in the cortex as a blind dilated extremity, called Bowman's capsule (after the man who first accurately described its structure in 1840). This capsule is invaginated so that it forms a hollow sphere completely enveloping the glomerulus, which will be described presently.

The capsule is made up of two exceedingly thin walls—one closely investing the glomerulus and dipping into its interstices. Between these two walls is a microscopically minute potential space, draining its contents into a short neck, connecting it with the proximal convoluted tubule.

The proximal convoluted tubule, in a much twisted course, winds its devious, snake-like way through the cortex until it suddenly and sharply straightens out and descends into the medullary portion, where, even more sharply, it bends on itself in a hairpin curve and then in a straight line ascends back into the cortex. Beyond this U-shaped part of the renal tubule, its limbs respectively known as the descending and ascending loops of Henle, the tubule assumes once more the characteristic structure of the proximal convoluted tubule and is, therefore, aptly styled the distal convoluted tubule.

The distal convoluted tubule, all of which, is located in the cortex, goes via the junctional tubule, through the boundary zone into the medulla and empties its contents into a collecting tubule, which in turn, with other thousands, pour their secretions into the ducts of Bellini and finally into the pelvis and the ureter which conveys the finished urine into the bladder.

The differing histology of the various portions of the renal tubule suggests their markedly differing functions. The whole tubule consists of epithelium lying on a basement membrane.

The inner wall of Bowman's capsule is lined by a syncytium of extremely thin and very flat—the outer, somewhat thicker wall, of delicate, moderately flattened endothelium.

The convoluted tubules, both proximal and distal, have walls of cubical epithelium. The cell boundaries here are indistinct, but the cell contents show a very prominent and peculiar arrangement—the so called "rodded epithelium" first seen by Heidenhain, a radial disposition or parallel rows of granules, vertical to

^{*}Read before the South Carolina Medical Association, May 9, 1929, Charleston, S. C.

the basement membrane, and fading out as they approach the lumen, and projecting into it in the form of hairs or cilia apparently immobile, resembling like structures on the intestinal villi. Besides the granules, disposed in rows, there are other granules, particularly around the nucleus and toward the lumenal border, some of protein and some of fatty composition. Watery vacuoles also occur.

The wall of the descending loop of Henle is of flattened epithelium, leaving room for a relatively large lumen; while the lining of the ascending loop is constructed of cuboidal cells allowing space for a rather small lumen.

The collecting tubules and ducts of Bellini are made up of cubical cells, with clear protoplasm.

Careful measurement calculates the size of the renal tubule to be about 3 c. m. for its entire length, with a lumen varying from 20 to 60 microns. The diameter of the glomerulus, resting, runs about 90, and, active, about 100 microns. The diameter of the capsule when inactive is near 95, during diuresis as much as 125 microns, with a corresponding variation in the width of the capsular space ranging from 2 to 25 microns. Of much importance, considering the vast amount of work done by the renal tubules, is their number. This, from reliable histological and mathematical data, is determined to be about 9,000,000 for the two kidneys.

Excluding the adrenal, thyroid, and salivary glands, the blood supply from the kidney is larger than from any other organ in the body. It is estimated as 100 m. l. per minute for each 100 gram of kidney substance.

The volumetric distribution of blood to the different parts of the kidney, especially the renal tubule, is exceptionally significant.

The renal artery, short and issuing directly from the aorta on entering the hilus divides at once into 4 or 5 branches alongside the pyramid to the boundary zone, situated between the cortex and medulla. There they unite to form arterial arches—downward into the medulla go the parallel arteriae rectae to supply the loops of Henle and the collecting tubules; upward, into the cortex, pass the interlobular arteries to supply the glomeruli and convoluted tubules.

Each kidney tubule has three separate capillary supplies—one via the arteriae rectae to the loops of Henle and collecting tubules, and then through the venulae and the venae rectae into the venous arches on to the renal veins, one by the way of the interlobular arteries to the glomeruli; and one from the glomerular vas-efferens, which breaks up into capillaries surrounding the proximal and distal convoluted tubules, from which the blood flows into venae stellatae and eventually into the renal veins.

Let it be emphasized that each glomerulus is essentially a tangled tuft of non-anastomosing capillary divisions of the vas-afferentia, arising from the interlobular artery and these capillary divisions unite to form the vas-efferens. This vas-efferens makes its way, and thus becomes, so to say, the vas-afferentia to the convoluted tubules.

It is even more important to note the striking fact that the afferent glomerular arteriole is larger in diameter than arterioles usually are; and what is still more significant the efferent vessel is only 2/3 the diameter, but 3 to 10 times the length of the afferent one—a very unusual arteriole-capillary-venule sequence, the venules always being markedly larger in caliber than the corresponding arterioles. But then the vas-efferens is not a venule. It were more correct to call it an arteriole.

Both the afferent and efferent glomerular vessels have thick muscular coats.

The lymph capillaries, as elsewhere closed at one end, intimately surround the convoluted tubules and convey all the waste material of kidney cell metabolism into thoracic duct.

The innervation of the kidney is from the thoracic sympathetic: 6—12, and from the vagus, forming a renal plexus arranged around the renal artery and on the walls of the pelvis, from which the fibers ramify and are distributed to all the blood vessels, including the capillaries, especially to the glomerular portion, and to the capillary area around the tubule. Some fibers can be traced to the tubular epithelium.

The vasomotor nerves are mainly of the constrictor type, but the dilator kind are also present, particularly to the capillaries.

To visulize the structure of the kidney the

accompanying diagrams and actual histological photographs are submitted.

The renal tubule is the functional unit of the kidney, and it is conceded by all investigators that the Malphigian corpuscle usually referred to as the glomerulus (though it really consists of Bowman's capsule plus the glomerulus or tuft of capillaries) along with the proximal and distal tubules are the functionally important portions.

The junctional and collecting tubules are commonly conceived to have no other duty than that of conveying the formed urine via the ureter to the bladder.

Recent research, however, seems to have established the fact that the muscular spiralis papillae, an anatomic and physiologic entity, rhythmically contracts, and, by creating negative pressure in the calyx and also in the main ductus urinarius, inaugurates periodic suction (every 30 seconds) on the papillary duct, thus milking the renal papilla. On this finding the urine does not drip out of each papilla because of a vis-a-tergo blood pressure but by an active suction established by the contraction of this spiral papillary muscle.

The loops of Henle undoubtedly do more than merely carry the urine from proximal to distal tubules. They serve, particularly the ascending limb, which as stated above has a relatively small lumen, to equalize the fluid pressure in the renal tubule. And the variability in their length is very probably related to the varying size of the capsular lumina, i. e. the unequal distance of the outer or parietal from the inner or visceral wall of the capsule around the glomerulus. The lumenal size of the loops moreover explains the formation of casts since it is in this part of the renal tubule that the urine meets with greatest resistance in its onward flow.

The theories of urine formation, therefore, are limited to a discussion of glomerulus and tubule activities.

With all the facilities of micro-manipulation available today, we are far from a final solution of this problem.

Boiled down there are four theories attempting to account for production of urine and the various roles assigned to glomeruli and the convoluted tubules.

- 1. Bowman, in 1844, later vigorously supported by Heidenhain, promulgated the vital theory, contending that all the urinary constituents are secreted by the vital activity of capsular and tubular epithelium—the former forming the water and easily diffusible salts, the latter adding the organic and certain inorganic salts.
- 2. Ludwig, about the same time, advanced what is known as the physical or mechanical theory—the glomerulus, by a filtration process, filling the capsule and tubules with a very dilute urine, the tubules by a physico-chemical or osmotic process concentrating this urine.
- 3. Cushny, in 1917, after painstaking study of the problem and much original investigation, presented a theory accepting in their entirety Ludwig's conclusions so far as the work of the glomerulus is concerned, but postulated an active absorptive function, similar to the intestinal villi, inherent in the epithelium of the tubules.

Cushny speaks of threshold and non-threshold substances. The threshold constituents of the capsular fluids are those salts which are still useful to the body economy, such as sugar, chlorides, etc., which are returned to the blood in and by the convoluted tubules.

The non-threshold ingredients of the capsular filtrate are purely waste products, are valueless or actually harmful to the body economy, and must be eliminated, such as, urea, the sulphates, creatinine, etc.

4. The most acceptable theory, held by the majority of physiologists, is a modification of Cushny's, and is based on the work of many, prominent among whom are the teamworkers Nash and Benedict, Marshall and Crane, Wearn and Richards, Starling and Verney and a host of others.

This theory I will outline because I believe it to be the most physiologically representative and factually physiological.

Before we pass on let us summarize the functions of the kidney and stress the fact that its most important work is not the formation and elimination of urine. That usually monopolizes the discussion of kidney physiology.

The first and foremost function of the kidney is:

1. (a) The maintenance of an optimum

concentration of the plasma constitutents adjusted momentarily to the varying needs of the organs and the organisms.

- (b) With delicate discrimination the kidney keeps constant the blood volume.
- (c) And efficiently cooperates with the lungs to stabilize blood reaction.
- (d) It regulates osmotic pressure relations in the body tissues, through blood and lymph.
- (e) And it forms and synthesizes several of the urinary constitutents, such as ammonia, hippuric acid, etc.
- 11. Secondly or secondarily, it eliminates
 - (a) Waste products.
 - (b) Basic non-volatile acids.
 - (c) Toxic substances.

A thorough review of kidney functions unmistakably accents the fact that its secretory capacity outranks and outweighs its excretory activity.

The net result of all the work done in and by the renal tubule is brought about by three intricately interwoven and mutually adjustive processes.

- 1. Filtration in glomerulus.
- 2. Differential absorption of threshold substances in convoluted tubules.
- 3. Secretion and synthesis by convoluted tubule cells of excretory uninary constituents, toxins, etc.

Function of Glomerulus

The view obtains, from which few dissent, that the sole function of the Malphigian corpuscle is the separation, by filtration, of a fluid from the blood containing all the substances found in blood plasma with the exception of its colloid content, phosphatides, and certain tubular synthetic compounds.

Wearn and Richards, also White and Schmitt, have succeeded in thrusting micropipetes as small as 10 to 20 microns into Bowman's capsule, and have by micro-chemical methods analyzed the glomerular transudate and found it to be identical with the blood plasma minus proteins, phosphatides and allied compounds.

The factors that influence the amount and chemical composition of the filtrate are:

- 1. The number of active glomeruli.
- 2. The hydrostatic blood pressure due to cardiac contraction.

- 3. The variations in the size of the blood vessels, the vasae afferentiae and the capillaries of the glomerulus.
- 4. The osmotic pressure of substances left behind in the blood.
- 5. The resistance of the filtering membranes.
 - 6. The back pressure of the filtrate.
- 6. Taking these up in reverse order we find that the back pressure, if not negligible by reason of the action of Henle loops and the ureteral muscle mentioned above, still is of small moment, because the filtrate is constantly and fairly rapidly removed.
- 5. The filtering membranes, i. e. the walls of the capillaries and the inner reflection over the glomerulus of Bowman's capsule are extraordinarily thin and porous, and easily pass all the plasma constituents except the protein molecules, which are too large to go through.
- 4. The blood plasma in the glomerular capillaries, after all its constituents except the colloids have been filtered into the capsule, has an osmotic pressure between 20 and 30 m.m. of Hg. In harmony with these findings is the observation that filtration ceases when blood pressure falls below this figure, unless the blood is plethorically diluted and thus the effective O. P. of the colloids, because of their low percentage presence, is diminished. This percentage may, through dilution, fall to such extent that a blood pressure of 18 min. Hg. may still form urine filtrate in the glomeruli.

It is perfectly evident that back pressure from ureter or blocking of any part of tubule must rise to a figure higher than the O. P. of the non-filterable substances within the glomerular capillaries, a fact of considerable clinical significance.

3. Very extensive is the range of varying the lumen of the glomerular vessels, directly effecting the amount of blood flow, and, therefore, the capsular filtrate. Constriction of the short and large afferent arteriole, of course, decreases the blood flow through the glomerulus very markedly and, parri passu, reduces the rapidity of filtration.

Constriction of the long and much smaller efferent vessel, retards the outflow, raises glomerular pressure, and favors filtration.

Dilatation of the afferent vessel increases the

volumetric flow of the blood into glomerulus, raises capillary pressure, and filtration becomes freer.

Dilatation of the vas-efferens permits the easy escape of blood from glomerulus, and, therefore, lowers pressure and diminishes filtration.

Richards, on good ground, asserts that the vas-efferentia is far more responsive to vaso-constrictor impulses than the vas-afferentia, so that weak stimuli, nervous or chemical, only effect the former, augmenting filtration; while strong stimuli constrict both, and, it follows, reduces filtration.

Strangely enough this relative sensitiveness to dilator stimuli, if chemical in origin, does not have the opposite effect. This is noteworthy but easily explained because the chemically active dilator ingredients of the blood promptly pass out into the glomerular transudate and, therefore, do not reach the vas-efferens in sufficient concentration to dilate it. For this reason chemical dilators both weak and strong, conspicuously favor urine formation.

The capillaries responding to nerve stimuli, to hormones, and chemicals in the blood assume perhaps the major burden of sizal adjustment for increasing and diminishing blood flow, and, therefore, local pressure variations in the glomeruli.

2. Blood pressure minus protein O. P. constitutes the effective filtration force. It is probably always below 50 to 60 m. m. Hg., but even so, is two or three times as much as in any other capillary area of the blood.

Filtration pressure may be expressed in the formula: F. P.=(p.—O. P.) P. here is the blood pressure in the glomerulus, p the pressure of urine in the capsular end of the uriniferous tubule, and O. P. the osmotic pressure of the plasma colloids.

The determining factor P may be increased in several ways: By increasing the force of cardiac contraction, or by a generalized vasoconstriction, or by occlusion of the renal vein.

Just as the fibers of any given muscle do not all take part in the usual contraction and only a certain number, to do the work required, contract, and also rotate in long continued action (a finely balanced economic affort) so, it is now definitely established, normally only a certain portion of the glomeruli function simultaneously, and often only a part of an individual glomerulus is active. The variation is very extensive and no percentage can be set down, but as a rule only 1 out of 5 functions under normal condition.

Adrenalin and pituitrin close active glomeruli so that few continue to filter.

Diuretics, such as caffeine and urea, open up, by dilatation, large numbers of glomeruli—in some cases all of them.

The easy inference from this is the variation produced in the quantity without affecting the quality or composition of the urine.

Functions of Tubules

The bulk of the work done by the kidney is shouldered by the convoluted tubules.

Why there should be a double set to each renal unit has never been explained. They do apparently the same work.

I am inclined to think the proximal convoluted tubules do the major portion of the work. They have a better blood supply, under somewhat higher pressure.

The distal tubule completes the process to the extent needed.

The loops of Henle favor the longer sojourn of glomerular transudate in the proximal tubule.

And it may well be the constantly active milking muscles of the papillae (spoken of above) by active contraction, hurry evacuation of tubule content or through inactivity favor retention.

The much discussed reno-renal and vesicorenal reflexes may find anatomic explanation and physiologic expression in the action of this muscle.

Its paralysis might well account for postoperative reflex anuria. Its over and under functioning certainly would markedly affect urinary flow from the tubules, reabsorption of threshold substances, and retention of waste material in the flow.

The selective absorption of threshold substances is not primarily intended to concentrate the urine, but to return to the blood, which leaves the glomerulus as a concentrated solution of plasma colloids, the optimal percentage of all the plasma constituents.

The differential absorption of water is perhaps the most important and the most spectacular.

First, to keep the body water content uniform, the convoluted tubules must take from the filtrate the amount needed in blood and lymph and tissue fluid.

Second, there is an obligate volume of water necessary to hold the crystalloid urinary substances in electrolytic balance with the blood—about .9% molecular concentration.

Much of the reabsorption of water may be accounted for osmotically. The laws of osmotic pressure, however, though they explain satisfactorily the reabsorption of water when the body is in water equilibrium, fail to account for absorptive failure in over-ingestion of water.

The elimination of excess water in urine is very exactly quantitative. In conditions of water equilibrium as little as 150 cc. ingested, increases by that amount the volume of urine.

Excessive intake of water may increase the volume 15 to 30 times the normal. Here osmosis is not equal to the task.

And it is for such a time as this that pituitrin comes into its kingdom. To this hormone (postpituitary) is assigned a twofold and antagonistic influence on urine formation. It has the power both of increasing and decreasing it. In the glomeruli it acts as a weak vasoconstrictor causing contraction of the vas-efferens, therefore, heightened pressure in the glomerular capillaries, and so augmented filtration. If, now, absorption is unaltered diueresis ensues.

In the tubules postpituitary secretions act as a specific stimulus to epithelial cell activity especially directed toward effective absorption of water from the filtrate and returning it to the blood.

In diabetes insipidus, quite certainly due to non-absorption of water on the one hand and too large a number of active glomeruli on the other, this hormone almost magically reduces the amount of urinary output.

The other threshold substances returned to the blood, if not too concentrated in the filtrate, are the following: Glucose, below .17%. Its concentration in blood is .1—.12%, so that ordinarily there is no sugar wastage unless the sugar invasion of the blood rises above .17%, or a much more common disturbance, the insulin functions ineffectively.

Phloridzin doubtlessly paralyzes tubule ability to absorb sugar from the glomerular filtrate and allows it to escape in the urine.

The reabsorption of the chlorides is a problem not definitely settled. The plasma content of NaCl is about .6% and the threshold for reabsorption by the tubules, it might be inferred, would be that figure. But this is not always the case.

With a salt-free diet, salt practically disappears within a week from the urine, because all the filtrate is reabsorbed. But strangely enough, if, now, caffeine is administered salt reappears in the urine. The caffeine probably paralyzes reabsorption of salt by the tubules. This, in turn, by its O. P. prevents, to some extent, the reabsorption of water and a measure of diuresis ensues.

This action of caffeine makes it an excellent diuretic in renal edema in which water and salt retention occurs.

Pituitrin also diminishes salt reabsorption but seems normally necessary to stimulate tubule epithelium to reabsorb water, and undoubtedly its stimulus to water reabsorption is far more efficient than its salt retention effect.

In starvation, occurring in many wasting diseases, salt elimination by the kidney is far higher than in a salt free diet, due to the salt in the tissue cell wastage, which needs to be thrown out to keep the O. P. of the body fluid constant.

With increased salt ingestion, the adjustment of outgo decidedly lags for a few days, probably because, as Patdberg has shown, the salt is largely deposited in the skin. But during the excess elimination of NaCl in the urine its concentration in the blood may be normal.

There is no doubt that salt intake can be reduced without harm. Carnivorous animals and races like the early Indians or better Eskimos, dominantly carnivorous, do not experience salt hunger; but herbivorous animals, because the vegetables, especially potatoes, contain a large percentage of K salts, need much

more Na than their food supplies, the K, as Bunge has shown, preventing the reabsorption of NaCl.

While in the normal individual salt reabsorption follows the bloodlevel, in the kidney diseases its reabsorption is much enhanced. This is known as the threshold of chloride excretion. In pneumonia and rheumatic fever NaCl reabsorption is almost complete.

Amino acid reabsorption is about .005% below its percentage in the blood. Their facile deamination by the liver and the kidney keeps down their concentration in the blood.

The secretory power of the kidney, and its synthetic capacity largely concern the nonthreshold substances; urea, creatinine, potassium and ammonium sulphates and phosphates, purin bodies, toxins, dyes, etc.

It has not been proven definitely that the tubule epithelium secretes urea, uric acid, sulphates and phosphates.

That reabsorption and concentration is not a purely physical process, osmotic in character, is easily evident if it is remembered that the O. P. of the glomerular filtrate is very considerably higher than that of the blood in the capillaries surrounding the tubules. The delta of blood is .56°C. that of urine 1 degree to 2.5 degree or even 5°C.

The tubules must, therefore, do much work. Their O consumption proves that too.

Moreover the selective absorption, the tubular epithelium exercises, reinforces this proof. The rate of urea, sulphate, and phosphates elimination is accurately proportioned to their bloodlevel percentage and wholly independent of their concentration in the urine.

This means that the tubules concentrate certain substances in the filtrate extensively and certain others only meagerly or not at all—a selective action prompted by blood concentrations that bespeaks a vital activity of tubule epithelium of a very delicate, responsive and adaptive character.

The normal urea output is 25—30 grams per day. Since the blood urea averages .03%, it must take 100 liters of plasma filtrate, and since, on an average, only 1500 cc. of urine is voided each 24 hours, 98.5 liters must be reabsorbed and the concentration of urea af-

fected must be between 65 and 70 times (2% divided by .03%).

Cushny's table modified and brought up to date, exhibits at a glance this concentration power of the tubules.

po			
	% in	% in	Concen-
	Blood	Urine	trated
Water	90—93	95	
Proteins, fats, colloids	79	trace	
Dextrose	. 1	trace	
Urea	.03	2.	70
Uric Acid	.002	.05	25
Creatinine	.001	.075	75
Na	.32	.35	1.
K	.02	.15	7
Ca	.008	.015	2
Mg	.0025	.006	2.4
Cl	37	.6	1.6
PO-4	.009	.27	30.
SO-4	.002	.18	90
NH-4	.001	.04	40
•			

The syntheses performed by the tubules are these: 1. Hippuric acid from benzoic acid and glycocoll. Many fruits (cranberries e. g.) and vegetables contain the toxic benzoic acid, which thus detoxicated is at once eliminated.

2. Inorganic phosphates, hydrolyzed from organic hexose phosphate by phosphatase, an enzyme found in tubule cells.

3. Formation of ammonia from amino acids, to react with the sodium salts of fixed acids and thus eliminate the latter.

Amount of Urine

The urinary output and especially its percentage of solid constitutents varies enormously and depends *fluidwise* on the quantity of liquid ingested or eliminated by other channels, particularly the sweat glands; and *solidwise* on the concentration of solids in the food.

The amount of urine passed during the day is larger than at night. If more than half of the 24 hour's elimination is voided during the night renal disease may be definitely suggested.

Moreover the night urine has a higher percentage of solids than the day specimens. If this is not so, i. e. if analysis of day and night samples show no variation, renal pathology is explicitly indicated.

Mosenthal's table of specific gravities well illustrate these findings:

			Day				Night
		10-12	12-2	24	4—6	6-8	8-8
Normal In hypertensive	1.016	1.019	1.012	1.014	1.020	1.010	1.020
nephritis In myocardial	1.010	1.009	1.010	1.009	1.009	1.010	1.009
decompensation	1.018	1.020	1.019	1.018	1.020	1.021	1.022

Polyurias are caused by:

- 1. Increased glomular circulation.
- 2. Plethoric conditions of the blood.
- 3. Interference with reabsorption by the tubules.
 - 4. Secretory activity of the tubules.

Pathologically polyuria may be brought about by:

1. Drugs and salts.

All substances that act as diuretics, e. g. caffeine acting on the glomeruli and directly on renal tubules; digitalis indirectly by its effect on the heart.

NaCl, if water is available, normally always produces diuresis. In certain forms of nephritis it may utterly fail as a diuretic, and may even diminish the quantity of urine and its chloride content.

- 2. In relieving edema polyuria occurs and is distinguished from the normal through its higher percentage of urea and salts.
- 3. In declining fevers, because often, at their height, spite of skin elimination, they make the blood more watery, diuresis results—comparable to relieving renal edema.
- 4. In renal disease when much tissue has been destroyed, the kidney's reabsorptive power is limited and frequently terminally polyuria ensues.
- 5. Injury to the floor of the 4th ventricle as Claude Bernard proved, occasions what is called NaCl diabetes because of its highly increased concentration in the urine.
- 6. In diabetes insipidus, whether due to a primary polydipsia or disturbed renal function, quite probably the latter, polyuria is symptomatic and is due to lack of water reabsorption by tubules and very probably is due to pituitary or brainstalk lesions.

Oliguria may be normal, as in much decreased water ingestion or in marked elimination of water by sweat glands and in feces. Pathologically, the urine is decidedly lessened

by

- 1. Insufficient glomerular circulation due to heart disease—less blood, less filtrate, less urine.
- 2. Nephritis, secondary to heart disease or primary in kidney tissue.

Any marked swelling of the renal parenchyma, because of the kidney's unyielding capsule may interfere with renal circulation.

Renal decapsulation, once hailed as a surgical panacea, has fallen into disfavor because a new capsule forms rapidly.

In renal congestion the nourishment of renal cells, especially of the tubules, is severely restricted.

Albuminuria may be normal, as in violent exercise or exposure to cold, or when a foreign protein enters the body by other routes then per os, and usually promptly subsides.

Postural albuminuria, due to vascular changes in kidney on account of diminished pulse pressure or venous congestion, is characterized by albumin in day—but none in night urine, and is most common in adolescents, ages 15-21. Prognosis is good, most patients in later life become entirely well.

Albuminuria from circulatory disturbances, or, more commonly the nephroptic type is mostly serum albumin.

The former are caused by venous congestion in the kidney or cardiac decompensation; the latter by degenerative or inflammatory changes in the kidney tissue.

Space forbids consideration of nitrogenous and salt retention in nephritic conditions, though late work done throws much light on kidney pathology especially uremia.

*APLASTIC ANEMIA

By W. R. Mead, M. D., Florence, S. C.

Within the past few months practically every newspaper in the country has featured the appearance of a strange and terrible malady among the painters of luminous watch dials in a certain New Jersey factory. The news value of these articles lay, not in the amount of damages which the victims could collect, but in the relentless nature of the illness which doomed the unfortunate workers to certain death within a fairly short period of time. In a much less dramatic manner Ehrlich had called the attention of the medical profession to this same disease as far back as 1888.

Although the reported cases of true aplastic aemia are not numerically great, they constitute a considerable portion of any group of primary anemias. Three cases which have come under my care during the last five years will be mentioned, one of them in some detail, the others rather casually to illustrate certain points in the general discussion of the disease.

Aplastic anemia is sharply differentiated from all other forms of anemia in its pathogenesis, symptomatology, clinical course and response to treatment. All evidence points to an acute and rapidly progressive bone marrow failure as the cause of the characteristic symptom picture. This, in turn, may be the result of many known and unknown noxious agents. Benzol (1) was the first of the known agents recognized as possessing the ability to inaugurate progressive aplasia in bone marrow. administration of neoarsphenamine and sulpharsphenamine has been attended in rare instances by the development of an aplastic anemia (3). In view of the benzene basis of both of these drugs, it is probable that their toxic action is in no way different from that of the parent substance. One of my cases illustrates this point:

A young tobacco buyer, 24 years of age, was admitted to the medical service complaining of bleeding from the gums. He had had a chancre eight years previously with inadequate treatment. Three and one-half months before his present symptoms appeared he had

developed another initial lesion, but began intensive treatment with neosalvarsan at once. During the next two months he received sixteen doses of neosalvarsan intravenously without any rest period. Approximately five weeks after his last dose and fourteen weeks after his first dose, bleeding from the gums appeared. Aside from his buccal condition, his physical examination was essentially negative. His admission blood count showed 30% hemoglobin, 2,300,000 RBC, 4,150 WBC of which 44% were neutrophiles and 56% small lymphocytes. There were no regenerative forms of red cells. His bleeding time was 20 minutes. Seven transfusions in five weeks increased his hemoglobin to 65% and erythrocytes to 3,600,000 while his bleeding time was reduced to eight minutes and all bleeding from the gums had stopped. He left the hospital, began drinking heavily and finally died in a North Carolina hospital after receiving some sixteen more transfusions.

Excessive irradiation of the long bones results in a temporary anemia which is indistinguishable from a true aplastic anemia. Recovery follows unless, as in the New Jersey radium paint cases, the source of the destructive rays cannot be removed. Martland (4), who investigated these cases, believes that the aplastic anemia which so many of them developed arose from a destruction of the erythro-and leukopoeitic centers in bone marrow where the insoluble sulphates of radium and mesothorium were deposited after absorption through the alimentary tract. In this ideal location, and free of any screening effects of intervening tissues, these radioactive substances bombard the adjacent blood forming centers with highly destructive alpha rays for an indefinite time interval. One is tempted to pause too long over Martland's extremely suggestive observations because in these unfortunate victims of modern industry, the stage has been set for some fundamental studies on the whole question of blood formation.

Aside from the chemical and physical agents previously described, toxins of certain diseases are prone to cause changes in the blood indicative of widespread destruction of bone marrow. Such, for instance, was Menninger's (5) case of pneumonia in which the leukocyte count

^{*}Read before the South Carolina Medical Association, Charleston, S. C., May 9, 1929.

ranged from 150 to 275 per cu. m. m. with 5% neutropils and 95% lymphocytes. The cases of agranulocytic angina which are being reported with increasing frequency (6) (7) (8) (9) show blood changes suggestively similar. Duke (14) mentions one case of aplastic anemia in an adult secondary to an enormously underdeveloped stomach which could receive only wholly inadequate amounts of nourishment.

All efforts to identify the cause for marrow aplasia are futile in a very large per cent of the cases of aplastic anemia. These constitute the true idiopathic cases of the disease. In such instances the most scrupulous care in history taking will fail to reveal any exposure to chemical, physical or biological agents or deficient nutrition which might cause the condition. Aside from offering a slightly more gloomy prognosis, if that is possible, the idiopathic cases of aplastic anemia differ in no respect from those resulting from some known toxic substance.

At necropsy the typical case of aplastic anemia shows bone marrow which is yellow, fatty or gelatinous gray with few normal cell elements or none at all. (10). Since it is inconceivable that any toxin can render the entire bone marrow completely aplastic at one time, it follows that the finding of a few small foci of normal or even hyperplastic marrow would not be incompatible with such a diagnosis (11) (12). Other organs show consistent or significant changes other than those incidental to extreme anemia. Such large depositis of hemosiderin in the liver as Smith (2) observed in his case are not in accord with findings of most pathologists who, therefore, do not accept these isolated instances as evidence of the hemolytic nature of this anemia.

On the clinical side, aplastic anemia presents an unmistakable and terrible picture. Occurring most frequently in early life—the second and third decades commonly in contradistinction to pernicious anemia—it is characterized by a rapid, non-remittent course, a pale gray skin instead of one showing slight icterus, a progressive decrease in all of the formed elements of the blood, varying degrees of fever, an absence of all abnormal forms of erythrocytes, and an early, marked hemorrhagic

tendency (13). These features are well illustrated in the case report which concludes this paper. The onset of the disease is somewhat insidious, first attention being directed to it because of the rapidly increasing weakness, evidences of anemia or hemorrhage in the skin or from the mucous membranes. From onset to termination rarely more than a few weeks elapse. Physical examination reveals nothing more than the waxen complexion which is singularly free from the yellowish tint of skin or sclerae which marks those anemias characterized by blood destruction.

Blood examination shows significant changes in erythrocytes, leukocytes and platelets. The color index is only slightly reduced, averaging o.8. There is pronounced reduction in the number of erythrocytes—one case which I treated showed a drop to 700,000 per cu. m. m. shortly before death-but the red cells are astonishingly normal in appearance. The absence of any suggestion of polychromatophilia, stippling, or changes in size and the failure to find nucleated erythrocytes on the smear or reticulocytes in vitally stained specimens may cause the unwary to be convinced that the process is not essentially a blood condition (15). A progressive leukopenia with most pronounced diminution of neutrophilic polymorphonuclears and complete disappearance of esoinophiles together with a relative but not absolute lymphocytosis constitute the significant changes among the white blood cells. One of my cases showed a reduction in leukocytes to 800 per cu. m. m., of which 80% were lymphocytes. I have seen the relative lymphocyte count as high as 05%. Minot gives the average as 70% (11). The platelets are decreased, often nearly absent. I was able to count only 2,400 in my worst case while the one described in detail below showed 50,000 per cu. m. m. The characteristic clotting phenomena which accompany any marked platelet reduction are found in this disease—a prolonged bleeding time, normal or slightly delayed coagulation time and nonretractile clot. The red cell fragility is likewise altered—they begin to break up in the same strength salt solution as normal but complete hemolysis occurs in a higher percentage of salt solution than normal (12).

If careful analysis of the blood findings has

not made the diagnosis obvious at the outset, the further progress of the case will soon add indisputable proof. During the early course of aplastic anemia, it is most often confused with idiopathic purpura hemorrhagica and must be differentiated from this condition since the question of splenectomy will come up at once. In contrast to purpura hemorrhagica, the anemia of aplastic anemia precedes hemorrhage because of the involvement of erythocyte and leukocyte centers before the parent cells of the platelets are attacked. The normal or elevated leukocyte count and the active response of bone marrow to transfusion further serve to distinguish purpura hemorrhagica.

From pernicious anemia a rather sharp differentiation is possible on the basis of the age of the patient, the more marked leukopenia in the aplastic form, the absence of glossitis, achylia and subacute combined cord sclerosis so characteristic of the pernicious variety, the failure of aplastic forms to respond to liver treatment or to exhibit evidences of blood destruction or to have spontaneous remissions; and, finally, on the basis of the wide variation in the bone marrow of the two conditions. The aleukemic phase of a leukemia simulates aplastic anemia except for the fact that in the former, immature cells of the lymphocyte group commonly reach the peripheral circulation while in the latter, practically all the lymphocytic cells are of the mature small lymphocyte variety. Ruling out pernicious anemia, purpura hemorrhagica and aleukemic leukemia, one must still think of the possibility of bone marrow tumors as multiple myelomata, easily distinguished by the X-ray, or hemophilia, where the number of blood platelets is normal.

Two of my cases presented themselves for treatment prior to the advent of liver therapy in anemia. Both of them died. I was extremely anxious to try liver in this fatal malady, and so lost no time in instituting this form of therapy on the third case, realizing however, that every theoretical consideration argued against its success. Sweeney (16) had used it in a case of aplastic anemia due to benzol poisoning to no avail, but, otherwise, the literature was devoid of reference to live in this disease. Diligent use of whole liver and the liver extract in my case resulted in no improve-

ment. Martland (4) has since reported the unsuccessful use of both liver and its active fraction in secondary aplastic anemia. Duke's (14) case with the infantile stomach which responded to a diet rich in liver must be regarded as an isolated instance, the peculiar circumstances of which might never be duplicated. I know of no other instances where liver has been used in this disease. Apparently it has no therapeutic value here.

Transfusions offer a useful method of tiding over an emergency while a diagnosis is being reached. It is conceivable, in a case of aplastic anemia when the toxic agent has been discovered and removed, that repeated transfusions may support the body functions while the bone marrow gradually emerges from its degenerative state. This was the rationale of the repeated transfusions in the first case I described. Very little support for this sanguine belief can be gleaned from the literature. My experience with transfusions in the condition leads me to believe that as the disease advances, the toxemia is so overwhelming that the mere mechanical addition of whole blood to the circulation cannot possibly counteract it. Because of the desirability of doing something tangible, transfusions will continue to be employed in this disease, just as gastroenterostomies will continue to be used in hopeless malignant disease of the stomach.

Unlike most diseases, removal of the cause of aplastic anemia rarely results in an arrest of its progress. Furthermore, it is most hazardous to undertake any surgical procedure, such as tonsillectomy, dental extractions or uterine packing. With pronounced leukocyte reduction, as obtains in these cases, a simple procedure, such as one of the above, may superimpose the picture of profound sepsis on one of a rapidly fatal anemia and thus intensify the horror of the inevitable exitus.

The following case is presented as typifying the classical features of a case of aplastic anemia:

A twelve year old girl was referred to the medical service with a history of six years progressive illness, the first symptom of which was an extremely foul breath. Following this she developed a sore throat and high fever. The family physician described the condition as be-

ing the most unusual throat he had ever seen the tonsils were swollen, ulcerated and had a distinctly purplish hue. Recovering from the severe throat symptoms, the child began to bleed slightly from the gums. She grew paler and more listless; she would tire easily. few days before her admission to the hospital purpuric spots appeared over the lower legs and in the buccal cavity. Her past history was quite devoid of significance. Her admission examination revealed no lymphadenopathy; the liver and spleen were not palpable. She had a waxen complexion and her sclerae were the color of skimmed milk. Positive findings were limited to the skin and mucous membranes, which were the seat of miliary purpuric hemor-Tourniquet test was positive. Blood examination on admission showed 32% hemoglobin, 1,530,000 erythrocytes, 3,200 leukocytes of which only 27% were neutrophils and 71% were mature small lymphocytes. Her platelets numbered less than 50,000. The bleeding time was three minutes, clotting time four minutes. After two transfusions, totaling 900 cc., her hemoglobin had risen to 40%, the red cells to 2,600,000, but the leukocytes had dropped to 2,800 with 15% neutrophils and 80% lymphocytes. Liver diet was begun at point, but within a week bleeding from the gums became so severe that another series of three transfusions, totaling 1200 cc., became necessary. Frequent blood examinations thruout this interval revealed a gradually rising hemoglobin and erythrocyte count with stationary leukocyte count and mounting percentage of mature lymphocytes to the point where they constituted 05% of the total leukocyte count and no abnormal red cells.

At this point the child was sent to the Barker Clinic in Baltimore where a confimation of the diagnosis of aplastic anemia was obtained. The hematologist reported the finding of no immature or abnormal red cells and only one immature leukocyte. Returning home the child again began to bleed from the gums, later also from the kidneys despite three more transfusions which raised her erythrocyte count to 3,330,000 and hemoglobin to 43%. Having given the child 1500 cc. of blood in these last three transfusions without the slightest benefit, and with no evident result from the dili-

gent use of liver extract which had been started in Baltimore, with the consent of the parents 1 determined to stop both lines of treatment. Three days later the child died, six weeks after coming under my observation.

A section of the femur was removed for examination. It was yellow with a few pinkish islands. Dr. Lynch's report on the microscopic appearance of the marrow is as follows: "Microscopically the marrow exhibits small areas of cellular content, the cells being mainly lymphoid, however, with a few of the polynuclear order and an occasional nucleated red. Otherwise, the marrow is entirely fatty."

Summary

In the foregoing an attempt has been made to describe a very fatal form of anemia, occasionally secondary to some known toxic agent but more often idiopathic. The usual pathology has been discussed as well as the chief clinical features which distinguish this type of anemia from related blood dyscrasias. The futility of all forms of treatment has been emphasized. The clinical record of one case with pathological findings has been appended.

Bibliography

- (1) Selling, L., A preliminary report of some cases of purpura hemorrhagica due to benzol poisoning. Johns Hopkins Hospital Bulletin 1910. 21:31.
- (2) Smith, L. W., Report on an unusual case of aplastic anemia, Am. J. Dis. Child. 17:174, 1919.
- (3) Combes, F. C., Purpura hemorrhagica following sulpharsphenamine, Arch. Dermat. & Slph. 15:104, Feb., 1927.
- (4) Martland, H. S., Occupational poisoning in manufacture of luminous watch dials, J. A. M. A. 92:466, Feb. 9, 1929. Ibid. Feb. 16, 1929.
- (5) Menninger, W. C., Extreme leucopenia in lobar pneumonia, J. A. M. A. 84:435, Aug. 8, 1925.
- (6) Kastlin, G. J., Agranulocytic angina, Am. J. M. Sc. 173:799, June, 1927.
- (7) Gundrum, L. K., Agranulocytic angina, Arch. Int. Med., 41:343, March, 1928.
- (8) Dasse, H. W., Agranulocytic angina, J. A. M. A. 91: 1719, Dec. 1, 1928.

- (5) Rose, E. & Houser, K. M., The identity of so-called agranulocytic angina, Arch. Int. Med. 43:533, April, 1929.
- (10) Minot, Geo. R., Diminished blood platelets and marrow insufficiency, Arch. Int. Med. 19:1062, 1917.
- (11) Minot, George R., Aplastic anemia, Oxford Medicine. 2:605.
- (12) Musser, J. H., Jr., Study of a case of aplastic anemia, Arch. Int. Med. 14:275, 1914.

- (13) Schneider, J. P., Aplastic anemia, Am. J. M. Sc. 156:799, 1918.
- (14) Duke, W. W., Aplastic anemia, J. A. M. A. 91:720, Sept. 8, 1928.
- (15) Lee, R. I., Aplastic anemia, Blumer's Bedside Diagnosis, 2:725.
- (16) Sweeney, J. S., Chronic aplastic anemia and symptomatic hemorrhagic purpura probably due to benzol poisoning, Am. J. M. Sc. 175:317, March, 1928.

PEDIATRICS

......

R. M. POLLITZER, M. D., GREENVILLE, S. C.

It has been requested by our Editor-in-Chief that a report be given to this Journal of a recent visit to some of the leading medical centers of Europe. Of course observations made from a few months stay cannot be as comprehensive as those covering several years; and also while the facts may be correct yet often ones impressions are not equally reliable. All sorts of factors influence our judgment of places and people. Weather, health, food, company, etc., all count.

When our country was younger in the days when medical colleges were very inadequate, and the educated classes had more wealth, it was the rule for young graduates to spend a year or more abroad in pursuit of knowledge. It was felt that contact with the older world had a broadening influence that was beneficial. Latterly, however, the impression has grown that America having made such marked advances in the industrial arts and in applied sciences, especially medicine, that it was unnecessary and perhaps foolish to cross the Atlantic, in quest of further learning. Nevertheless, our medical journals constantly contain proof of the industry and ability of our brethren across the sea.

About the middle of May our ship left New York City. The nine day voyage was so delightful that the time was too brief. Arriving at Naples an opportunity was afforded to view one of the most beautiful of all harbors. After a few days in Naples and its environs a visit was made to Rome. This majestic city contains not only many well preserved monuments of antiquity but magnificent modern structures. The city is large and very cosmopolitan. To see it as it should be would require many weeks. One obtains from it, in great measure, what he carries to it. That is the student of antiquity and of art acquires far more in a short time, than the average uncultured tourist, to whose ears the names of famous men of a past day, mean nothing.

lnasmuch as we in America are unfamiliar with the Italian language we are uninformed as to the progress that is today being made in Medicine in the land ruled by Mussolini. Some few of us may recall that it was at Salerno and Padua in the Middle Ages that doctors obtained their training. throughout Italy there are many excellent medical schools and hospitals. We were quite fortunate in that we were shown through the Policlinico at Rome. This is a large modern general hospital of 800 beds. The laboratories of chemistry, bacteriology, pathology, etc., are all that one could wish. Next we spent over an hour going all over the new pediatric hospital. The director Professor Spolverini happened to be present, so that we saw not only beds, and wards, but the charts and the patients. If in this state we had a children's hospital one tenth as good we would be proud.

In fact throughout Europe much is being done for the child.

After seeing some of the points of interest and getting steeped in the art and history of Rome, Florence and Venice, we journeyed through some beautiful mountain country all day, reaching the large and handsome ancient city of Vienna at night. Vienna should mean much to all medical men, for there it was that most of our earlier specialists, and some of our eminent present ones laid the foundation for their medical work. To a doctor this metropolis with its many large hospitals and allied institutions offers much that is of interest and of great value. Further to the sociologist it is worthy of study. Then too the presence of the Am. Med. Assn. of Vienna which is a link between the student and the professor is very helpful. Over 550 courses in medicine are offered. There are over 250 instructors. The courses are well conducted and not expensive. Of course no one can expect in Vienna or elsewhere to obtain something for nothing. It was my good fortune to make rounds several times at the Pirquet Clinic which may be taken as a Pediatric model, and also at the Karolina Kinderpital (Childrens Hospital). The wards are clean and well lighted and the patients well cared for. The cubicle system is used. The charts while not too voluminous contained everything that one could ask for. The professors in making the visit spent hours at the bedside, talking with the residents, interns, and consultants about each case as though time were nothing. Of course, as the Visiting Physician is paid by the state he can better afford than an American to spend much of his day in the hospital. But aside from that thoroughness seems to be inborn in the Vienna doctor.

As yet no one has been appointed to fill the chair of the lamented and incomparable von Pirquet. However, Prof. Knoepfelmacher, Prof. Noble, Dr. Wagner, and others are carrying on. It was my privilege to attend several clinical lectures of Dr. Noble. The work was in German; but so clear and simply expressed that it was easy to follow. His teachings on diarrhea and vomiting are very much the same as those of the leaders in America. His cases and radiograms of rickets and scurvy were very interesting. In Vienna and in Germany excel-

lent radiographic work is done and the films projected on the screen are utilized at most lectures. The lecture room is large and often there are from 200 to 300 students in attendance; in addition to the assistants, internes, nurses, technicians, etc., The students come from many places in foreign lands, such as Czecho-Slovakia, Poland, Hungary, Russia, etc. Contrary to what I had heard the instructors are very kind and attentive to the patients, and in their remarks to the students while earnest and serious, yet are sympathetic and intersperse quite a bit of wit. There are very many hospitals in Vienna, some new, the majority old. The best known is the Allgemeines Krankeshaus (general hospital) which has 5.000 beds.

It is a veritable city with parks, streets and monuments to many departed medical leaders. The buildings are separate and distinct according to medicine, surgery, etc. The streets are all labeled and arrows and signs indicate the way. Nevertheless one gets lost very easily. One morning early I had the pleasure of attending a clinical lecture by Prof. Chvostek. He showed but a few cases, but discussed them well, making the hour pass very pleasantly. Here it might be noted that while one can obtain instruction through the A. M. A. of Vienna without a knowledge of German, yet it is far better to be able to understand that language. This fact is attested to by the large number of persons there who teach German, and who advertise to teach medical German. In the neighborhood of the Allgermeine's Krankenhaus and the headquarters of the A. M. A., there are all sorts of boarding houses, medical bookstores, and tutors. The Jubilaumspital is a new hospital which houses only 2,000 patients, but it is conjoined to the Old Folks home on the same grounds, which has a capacity of 7,000. Professor Erdheim, who is a pathogist of renown has the entire pathologic material from these places at his disposal. One afternoon I attended his lecture. It was to me an eve-opener, for I had no idea that one ever went into the subject so fully. His exhibits were well prepared and his remarks most instructive. Before the pathology was discussed a resume of the clinical course was given.

In addition to medicine in Vienna one enjoys

excellent music, opera, and other varied attractions. The cafes are good, and the people all are very kind and courteous, especially to Americans.

Next a tour through six of the representative German cities was undertaken. Munich is a large modern beautiful city of about a million people. Art and science are well represented. The Deutsches Museum is the finest thing of its kind in the world. While in the city I visited the Childrens Hospital and later on returned to hear Professor Pfaundler give his lecture. It was well worth the time and trouble. That distinguished doctor kept his students attention and gave them valuable in-Dr. Pfaundler is not only a clinistruction. cian and research worker, but a writer of distinction. He is doubtless best known to many of us as a joint author of the pediatric work entitled Pfaundler & Sclossman's Diseases of Children. His latest contribution has been on the effect of nervonal in chorea.

After leaving Munich or Munchen (as the Germans call it) a brief visit in three other interesting cities was made before Berlin was reached on the 21 of June. There we joined the European Assemblies of the Interstate Post Graduate Medical Association of North America. Berlin is a huge modern city. A regular program was arranged day by day at set hours at the Charite and other hospitals. So much of the time was spent at clinics that aside from a trip to beautiful and historic Potsdam little was seen of the city. The most interesting figure to me was that of Prof. Czerny. His léctures were clear cut, worthwhile and well attended. He has done some remarkable feeding experiments, which were briefly reviewed. Then too he is testing out the safety and efficiency of a new drug for use in hereditary lues. This remedy is given by mouth. So far it sounds promising. Professor Von Bergmann gave a resume of his investigation clinically and radiographically of gastritis. His associate spent over an hour reviewing some of the recent work on diseases of the intestine. The radiograms exhibited were very fine. famous Professor Lubarsch exhibited before us a large number of pathological specimens. These were wet preparation in the gross which were thrown on the screen and then discussed after

a reading of the clinical history. Berlin as a medical center ranks with or perhaps in some respects above Vienna. But in Berlin all the work is given in German and there is no intermediary medical association. Further the city to me seemed to lack the charm and gemuethlickeit of the smaller but more picturesque Vienna.

Our party of American doctors then journeyed to Frankfort on the Main (river.) medium size City is an old historic and handsome place. It has a university and is a center of great culture. At the Medical School which is in a park with many pretty buildings we had a regular program of clinics and lectures the three days of our stay. The chief medical figure (in my opinion) is that of Professor Volhard. He is a well known authority on the kidneys and the heart. Wherever nephritis is investigated his work is known as fundamental. He exhibited many models of the heart showing different lesions. In the wards of the hospital there were about 60 cases with different types of nephritis. Professor Von Mettenheim gave a clinical lecture in Pediatrics. Several rare conditions were shown, and some fine photographs and radiograms exhibited. would be well for one having the time to spend months at Frankfort learning medicine. Some of those interested in Surgery, saw some excellent work done there by Prof. Schmieden. He must be a man of great knowledge, and in addition he possesses speed and good technique. At Frankfort there is an institute where much physical therapy is given. Radium emanations are particularly used there in medical conditions. One afternoon we spent at Bad Homburg. This is a sanitarium of great size and beauty, which is in a very large park. It is patronized by a wealthy clientele from many lands.

Our next stop was at Paris. One is very apt to forget the pursuit of medical science when surrounded by all the distractions of this fair city, but for those who have the will to seek it, it is there in abundance. To an American the American Hospital stands out as an oasis in this foreign land. It is a monument to what the people of the United States have done, and is greatly appreciated by the French medical people. There we had several clinics and talks.

Prof. Bernard had much to say about his treat- Maitland Jones. He talked well and very much ment of tuberculosis with gold and sodium thiosulphate. His claims were modest, but he seemed positive that it is a method of value. Then our American Dr. Plotz told of some remarkable new work that is being done along the lines of immunization in typhoid, cholera and in dysentery. Following this there was a reception on the roof of the hospital. This was well attended. From the roof an excellent view was had of Paris. Paris has great beauty. One of the greatest medical treats was a visit to the Pasteur Institute. We spent a while at Pasteur's tomb. It is inspiring to there see on the walls in mosaic a recapitulation of this great scientist's many and beneficent conquests of disease. To the doctor at least, his tomb is more impressive, than that of Napoleon's. At the very old Hotel Dieu and the Hospital des Enfants Malades we had lectures and clinics. Prof. Nobecourt told us much that was of interest to pediatricians. The French hospitals have the air of being very old and seem to need financial aid. Of course the newer ones are different. In Paris one must know French or have an interpreter on tap; for one is expected to understand French. Unfortunately many of our party did not. Generally an interpreter was obtainable. After 12 days spent in this fascinating large city so rich in palaces and in mementoes of festive and tragic days we traveled via Belgium and Holland to England.

In London it was my pleasure to visit the London hospital This is a large well known old place. There I heard a clinical lecture by Dr.

to the point. At the Hospital for Sick Children on Great Ormond St., a whole morning was enjoyed accompanying Sir Hugh Thursfield on ward rounds. The English doctor is first and foremost a clinician. While excellent laboratory work and research is done here, yet one feels that common sense and bedside study are the chief factors in the success of the hospital.

There are advantages and disadvantages in London as a place for graduate instruction in medicine. The fact that English is spoken helps considerably, then too while our ideas and traditions are not exactly the same, vet there is a good bit of uniformity. However, the Englishman is far more conservative, and has more regard for form than his energetic and breezier transatlantic brother. England is entirely different from continental Europe. One misses the ease and freedom of life in France or in Germany. There are no open air cafes. There is less music and the people in general are less interested in the arts and particularly in the art of enjoying life. England seems to me to have suffered tremendously from the World War and the financial depression is still in evidence. Nevertheless with its mutiplicity of hospitals and the large number of clear headed and courteous medical men, the American can there find much of value, All in all the writer is of the opinion that even with the marked advance that the United States has made recently in graduate medical instruction, that a doctor with the time and inclination will benefit greatly by a trip abroad.

MINUTES

REPORT OF COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION 1929

The population of South Carolina is estimated to be 1,800,000, of whom 18%, or 324,000 are illiterate. Of this population, 21,859 died last year. (1.2%). The diseases taking the largest toll were: tuberculosis, 1500; pellagra, 900; cancer, 769; typhoid, 307; circulatory diseases, 5300; kidney diseases, 1950. A large number of these deaths were preventable. Of course old age, accidents, and epidemics will always account for a certain number; and death from these cannot be reduced; but among the preventable diseases a large reduction is possible if the proper measures are made use of. Health conservation is not merely freedom from disease. As stated in the health education report of the joint committee on health problems in education of the National Education Association and the A. M. A.: The ideal of health is not mere freedom from obvious deformities and pathological symptoms. It is the realization of the highest physical, mental, and spiritual possibilities of the individual. Health education can be promoted only by emphasizing all aspects of health.

In our State noteworthy advances have been made in improvement of health conditions. The larger towns have made creditable showing in their health boards, in their health ordinances, inspection of premises, foods, milk and dairies, and disposal of sewage. The county health units in those counties where they exist, have made definite progress in vaccinating, inspecting, lecturing, and spreading the gospel of hygiene and sanitation.

By far, the most intensive efforts have been expended in the cause of tuberculosis prevention and cure. Data regarding this disease are acculumated and distributed extensively. The efforts of the State Tuberculosis Association have been largely responsible for what has been accomplished in our State. To illustrate: 15312 visits were made to patients' homes; 8382 persons were examined, and 454 suspects found; the sale of Christmas seals amounted to over \$36,000.00. All this in 1928. There are branches of this body in several counties, all doing some work. But these efforts discover the greater needs. Adequate sanitarium facilities are woefully lacking. There are 13,900 active cases of tuberculosis in the State. There are few facilities for negro patients. The death rate among them is far greater than among the whites; and they are the carriers, spreading the germs by their more unhygienic methods of living. With all the efforts of the State Health Board and the State Tuberculosis Association, the needs in this one disease alone are still crying.

Highest source content of foods—preventing goitre.

Periodic health examinations have been urged for the past several years. If thoroughly carried out, they would save uncounted lives, untold suffering, and millions of dollars. The examination of children at the school age and even before that time has been in effect several years. One of the greatest advances in this field is the summer round-up in the Parent-Teachers Association. Last summer over 80,000 children were examined, and their defects remedied. In industries the advantages are immense. One industry will illustrate: railway employees. Defective vision, syphilis, hypertension, and various other disabilities continue to maintain the casualty lists. The chief surgeon of the Michigan Central railroad, in an extensive study of his pension department, found 53% of his pensioned men were pensioned from preventable causes; that the railroad life of these men could have been extended 61/2 years had the causes of their disabilities been discovered in the beginning. It is estimated that there are 42,000,000 working people in the U. S. 25 million have defective teeth; 8 million have organic disease. Periodic health examinations could prevent a large amount of this disability. A recently formed organization in this country is one for the prevention of heart disease. Much of this can be prevented by proper care during the school age.

The greatest need of the present time is health education. It is undertaken by the State department of education, in the normal schools and in some of the colleges. The health departments of many states in the Union issue health bulletins. Some have publicity bureaus, from which health literature is sent, health talks given, over radio, and through the press; also lectures whenever possible. The advantages of such a department are incalculable. The physician too is a health teacher, and a whole time one. He must scatter this knowledge at all times among his patients and their families. "The really significant thing about this procedure xx is the fact it places the family doctor in a position to educate the individuals who come to him x x in the most effective of all ways, namely the face to face contact of the patient and the physician."

In addition to the physician is the teacher. It is recognized that the teacher can do more than anyone else in instructing children in health habits. This means Dr. Thos. D. Wood, of N. Y. stressed in his address before the Boston Health League last March. He said: Some conscious provision should be made by teachers and other school officials who set up the courses of study for health education so that attention may be given to this every hour of every day of every week of every month of every year of the child's life in school. Then, as has been suggested, unless the efforts of the school in health teaching articulate successfully with the life of the pupil in the home and in the community outside the school, comparatively little progress can be made.. He closes with: "Let every teacher be a health teacher, and every teacher be a health example."

Dr. Jno. M. Dodson, editor of Hygiea, in a recent address spoke of the close cooperation between the A. M. A. and the National Assn. He stressed the education of the teachers of the country to the importance of health as a fundamental plank in any educational program. "One cannot attend a meeting of educational associations today without constantly hearing the expression that whatever is taught in schools, health must be the fundamental thing of all; that without health, there is no use in teaching anything else. As the supt. of schools in Pittsburgh expressed it: 'We talk of teaching the four h's; heart, head, hand, health. Give me the teaching of health, and I care not who does the rest'." The National Education Assn. numbers 200,000 teachers. A program started by a committee of this organization set forth the objects of education: for citizenship, for self-support, for good family life. The committee was unanimous on the question that health should be the first item on the program.

It is evident that health education is the aim of the present day effort. The daily, the weekly press, both church and secular, the various community organizations, the Boy Scouts, the normal schools and the colleges, all offer fields of endeavor. And people are eager for health knowledge. Workers in tuberculosis, and county health officers inform me that whereas at one time, they were unwelcome, now they are invited into homes, schools, and clubs. But the health literature is meagre. Were it not for what is dispensed by the large insurance companies-and this does not go far-the health workers would be without literature for the homes they visit. We need at this time a publicity bureau of the State Health Department. This requires money. Previous legislatures have declined to make appropriations adequate for this need. On reason is the lack of effort by the State Medical Association. We have not

educated our representatives to the need of this means of health conservation. How long it will require to educate them depends on us. To quote Dr. Dodson again: "The medical profession collectively and individually must undertake medical and health education of the laity. Vast numbers of people are eager for health and all that pertains to it. If we do not respond to this demand, others will supply it—the quack, the charlatan, the cultist, the faddist. It is up to us to get the ear of the public in every possible way, and give them scientifically reliable, dependable, information stated in such a way that it will impress them with the desirability of following the advice given."

In closing, I want to make just one recommendation: That in 1930 our association meet in Columbia at the time the legislature is in session; that we devote a good portion of our meeting to health conservation inviting the Senate and the Legislature meet with us: that we have men nationally prominent in this field of medicine to address us: that we may ask for a publicity bureau of the State Health Department to be established and maintained by State appropriation.

G. T. Tyler, Chairman.

(Report adopted except that part calling for meeting State Association in Columbia, 1930.)

REPORT OF COMMITTEE ON CONSTITUTION AND BY-LAWS

TO THE HOUSE OF DELEGATES South Carolina Medical Association. GENTLEMEN:

Your Committee on Constitution and By-Laws beg to submit their report. An effort has been made to propose such changes as, in their opinion, is necessary to bring our Constitution in line with the proposed Model Constitution for all states as approved by the American Medical Association.

The principal change, it will be noted, has to do with the election of a President-Elect instead of three Vice-Presidents as has been our custom. It is believed that this is a definite improvement over our present system, in that it will permit an incoming president to serve a year as President-Elect, during which time he is intimately associated with the President and have an opportunity to become familiar with the workings of the Association. At the present time, the President is elected and at once becomes the head of the Association. He may or may not have a great deal of contact with the workings of the Association and is thus placed at a disadvantage which it is believed the serving of a year as President-Elect, prior to his induction into office will remove these objections and disadvantages.

The second main change recommended is the election of the Speaker of the House of Delegates. It is believed by your Committee that the election of a man of executive ability, one thoroughly familiar with the inner workings of the Association to preside over the House of Delegates will naturally be in a better position to expedite the business of the Association, particularly as it would be highly desirable for this man to be reelected from year to year and would have a further advantage of removing those duties from the President, the latter, however, will preside as is now the case over the Scientific Sections of the Associations.

The proposed Amendments are as follows:

Proposed Amendments

To amend Section II, Article IV of the Constitution by adding to the present paragraph the following: "whose dues and assessments for the current year have been received by the Secretary" so that when so amended will read "The members of this Association shall be the members of the Component Medical Societies whose dues and assessments for the current year have been received by the Secretary."

To amend Article VI of the Constitution by rejecting the present Section in its entirety and substituting the following:

"The Council shall be the Board of Trustees of this Association and shall constitute the Finance Committee of the House of Delegates. The Council shall have full authority and power of the House of Delegates between Annual Sessions, unless the House of Delegates shall be called into Session as provided in the Constitution and By-Laws. It shall consist of the Councillors, the President, the President-Elect, the Secretary-Treasurer and a speaker of the House of Delegates, of the Association. Four (4) of its members shall constitute a quorum."

To amend Article IX, Section I of the Constitution by striking out the words, "three Vice-Presidents" and substituting the words, "a President-Elect, a Speaker of the House of Delegates" so that when amended shall read:

"The officers of this Association shall be a President, a Vice-President, a Speaker of the House of Delegates, a Secretary-Treasurer and eight (8) Councilors.

To amend Chapter III, Section I of the By-Laws by striking out the words, "one of the Vice-Presidents" and substituting the words, "President-Elect" so that when so amended shall read "all regular members may attend and participate in the proceedings and discussions of the general meetings and of the Sections. The general meetings shall be presided over by the President or by the President-Elect, etc."

To amend Chaper VI, Section I of By-Laws by striking out the words, "and of the House of Delegates" and substituting therefor the words "except the House of Delegates" so that when amended shall read "The President shall preside at all meetings of the Association except the House of Delegates, etc."

To amend Chapter VI, Section II of the By-Laws by striking out the words, "Vice-Presidents" in the first line and substituting the words, "President-Elect" and in the third and fourth lines strike out the words, "the Council shall elect one of the Vice-Presidents" and substituting the word "President-Elect" and by adding to the last sentence the following "and shall be a member of the Council Ex-Officio" so that when amended shall read, "The President-Elect shall assist the President in the discharge of his duties. In the event of his death, resignation or removal, the President-Elect shall succeed him and be a member of the Council Ex-Officio."

To amend Chapter VI, By-Laws by adding an additional section to be known as Section III which shall read as follows:

"The Speaker of the House shall preside over the House of Delegates. He shall make every effort to expedite the business of the House by appointment of such Reference Committees, etc., as deemed necessary. In case of his absence the House shall appoint a Speaker Pro Tem."

Proposed Change in Commitees

Amend Chapter 8, Section I so that when amended will read: Chaper VIII Committees and Sections:

A Committee on Scientific work.

A Committee on Public Policy and Legislation.

A Committee on Public Health and Instruction.

A Committee on Necrology.

A Committee on Publications.

A Committee on Medical Economics.

A Committee on Medical Education and Hospitals.

The effect of these amendments will be that the Committee on Prevention of Veneral Diseases will function under the Committee on Public Health. A new committee will be created to assist the Editor of the Journal in the selection of papers for publication. A new committee to investigate matters pertaining to the economic status of the profession.

(Amendments of Committees adopted. Changes in Constitution to be voted on 1930.)

J. H. Cannon, Chairman.

DISCUSSIONS AT A. L. R. AND O. SOCIETY

(NOTE: The following two short articles are discussions made by Dr. J. W. Jervey, of Greenville, South Carolina, of papers read at the annual meeting of the American Laryngological, Rhinological and Otological Society in Washington, D. C., in 1928 and in San Francisco in 1929. For reasons good and sufficient unto the Editor of the Transactions of that organization these discussions were not included in the publication of either annual volume of Transactions, but such a very large number of pressing requests have been made for copies of these discussions that Dr. Jervey has consented to have them printed here).

"THE EVOLUTION OF THE HUMAN FACE"

By H. H. Briggs, M. D., Asheville, N. C.

(Read at the annual meeting of the American L. R. and O. Society at Washington, D. C., May, 1928.)

DISCUSSION:

Dr. J. W. Jervey, Greenville, S. C.:

It is related that a small boy one evening asked his mother if it were true that he was descended from monkeys.

"My son," she replied, "I really cannot tell you; I wasn't very well acquainted with your father's folks."

And the old man, who was quietly reading the paper in the easy chair by the fire, arose without a word, went out to the coal shed and kicked the cat through the roof.

Dr. Briggs has gone to work to find out something without making anybody angry. Indeed, I think we shall all owe him a debt of thanks if he shall discover of what particular importance, if any, the paranasal sinuses, for instance, are to the human race. That they are changing along with the inevitable evolution of the face cannot be doubted, and personally, while they are a source of useful revenue to many of us, my feelings would not be injured if they could be completely abolished and obliterated forthwith.

Certainly the sinuses, as such, are not essential to human welfare, for when any of them are absent or done away with no recognizable damage ensues. On the contrary, they are a very present potential source of danger, and in the light of the Darwinian theory of the survival of the fittest it is clear that a trend toward their disappearance must be established. I doubt very much their physiological value as sounding chambers or air-warming cavities.

But when it comes to a consideration, pure and simple, of the evolution of the human face, I confess I am discouraged. One thinks of evolution as a general progression toward something

better-something, let us say, more beautiful. Yet, when I contemplate the faces handed down to us by Phidias and Praxiteles, and those noble old faces in the days of "the glory that was Greece and the grandeur that was Rome," and even later the beauty that was perpetuated by Rafael and Michelangelo and Titian and Leonardo da Vinci, and then turn my gaze upon the sea of faces that confronts me now, I confess that I have a vague feeling of goneness, as if something had gone wrong with the general scheme of evolutionary improvement. So, I can only conclude (and I have consulted the mirror) that our present physiognomies must represent a racial atavistic tendency, kicking back some many thousands of years.

Beauty may be "in the eye of the beholder," but if that be trne, then, today I am blind! (Except, of course, for the ladies whom I have the honor to be addressing).

But there is hope. Not so very long ago Professor Muller, of the University of Texas, announced to the International Genetics Congress, in Berlin, that by exposing the Drosophila, or common fruit-fly, to the x-rays, he had obtained a hundred or more distinct mutations, or "sports;" and these changes were reproduced and perpetuated in their offspring. This is merely highspeed evolution. The chromosomes, containing the hypothetical "genes," or hereditary units, were apparently definitely and permanently changed from their previous course of reproduction and perpetuation.

If this can be done in the fruit-fly it is not so far a cry to assume that it can be done in any other form of life, even in man!

The potential rays of the earth's natural deposits of radium, augmented by the x-rays of man's harnessing, may in the near future be a powerful influence in the trend of evolutionary development.

It may not be, then, altogether within the realm of fantasy, to see the time when these potent forces, backed up and reinforced by similar elements which are known to exist in suns and stars, may be directed by the mind and hand of man for the benefit of future mankind and the glory of a Great Creator! Thus even may the ancient study of Astrology be vindicated!

Then we may witness the departure from human anatomy, without ceremony or loss of time, of the vermiform appendix, the faucial tonsils, the paranasal sinuses and other vestigial remnants of bygone days.

Then perhaps, may come the emancipation of the Doctor and

"We shall rest, and faith, we shall need it Lie down for an aeon or two, 'Till the Master of all good workmen Shall set us to work anew." But I fear I am soaring, or you will think I am, and I would not have it said of me as it was of the pulpit orator, who, when he seemed to have reached the zenith of his eloquent intensity was interrupted by a shrill voice from the gallery crying:

"Cut his galluses and let him fly!"

When Dr. Briggs honored me with an invitation to discuss this paper, I wrote to an old friend of mine, of fecund wit and jovial propensities, asking him how I could attack a discussion of this subject. His reply was characteristic. "You might talk," he said, "about faces in general; how God gives us one and we change it. Mention different kinds of faces as malignant, musical, heavenly, milky, old familiar, awful, foolish, sad, dimpled, nice, sweet, scholarly, nosey, etc. Then allude to Aurora, Cupid, Venus, et alia. In closing bring in something about Old Aunt Jemima's Buckwheat cakes; speak briefly of the Red, White and Blue American faces; then wave the flag and sing the Star Spangled Banner!"

I am ready to do all of these things, but something tells me that neither time, nor you, Mr. President, will permit.

So, in conclusion, I shall only observe that while as Dr. Briggs has told us, it may take a million years for the horse to lose his toes, and a half million for man to lose his tail, I am confident, as I see it, that this country can never lose Al Smith; and it looks as if it will take another million years to lose Prohibition.

"THE PREPARATION OF PAPERS ON MEDI-CAL SUBJECTS. HOW TO MAKE THEM INTERESTING AS WELL AS INSTRUCTIVE. THE EDITOR TALKS"

By George L. Richards, M. D., Fall River, Mass.

(Read at the annual meeting of the American L. R. and O. Society at San Francisco, California, July, 1929.)
DISCUSSION:

Dr. J. W. Jervey, Greenville, S. C.:

A few nights ago while crossing the scorching deserts between Salt Lake City and Los Angeles I lay in my berth wooing sleep with no measure of success and restless from the exhausting heat. Suddenly it flashed through my mind that the paper of Dr. Richards offered on our program was the only one which had no provision for the opening of discussion. I felt that it should be discussed. And How! Instinctively I knew that fate had called me to a stern duty, and there and then, in the midst of those hot sands, soothed by the roar and rumbling of a mighty Pullman train I knew that I was going to say to you what I am saying now; and so I slept, my mind relieved of

the distressing thought that so important a detail had been overlooked.

It was a happy thought of Dr. Richard's when he determined to tell us how to write interestingly; but it was a heavy task thus self-imposed.

Since Milton's Areopagitica, which brought about freedom of the press throughout civilization, men have tried, usually in vain, to teach other men this highly attractive art. The trouble is that the interesting writer, like the poet, nascitur non fit.

This is personality, or the lack of it. Where the germ is innate it may be trained and developed through years of a favorable environment or association into the beauty, charm and sweetness of a full-blown flower; but it cannot be manufactured or painted, or planted and grown into anything worthwhile. One can only be taught to write good English.

But I am irresistibly drawn to make merry for a moment or two with our able and popular editor; and for invading the sacred editorial precincts with argument or suggestion I can only plead justification by virtue of my own service in daily journalism from cub reporter to editorial chair, and several years as editor of a medical journal. I mention this only to remind you that I am not merely "a looker-on in Vienna" with a penchant for unenlightened criticism. Now, revenous a nos mouton.

Dr. Richards is without a doubt a thoroughly competent editor of our transactions. Only one or two minor details of his work could justly be criticized, I think, and I believe we all feel that our Society owes him a very great debt of gratitude. Just one of these little discrepancies (from my viewpoint) shall be mentioned here.

I should like to challenge any member to look carefully through our transactions for these sixteen years and find a single flash of humor of any kind to attract his attention to a paragraph or an article.

Dr. Richards tells us this is purposely so; which is precisely my chief reason for objection, because it does not need to be so. Must we lie down forever in the prototypical shadow of British austerity and gloom?

Or, shall we be ourselves and smile a while even in the midst of our intellectual and scientific travail?

Many a time our brilliant Mosher has flashed a bit of sparkling repartee or poignant epigram across the floor, but if any of it was preserved in our Transactions, I have never seen it.

Many a time our inimitable Shurly has sped a shaft of his dry humor into the heart of a discussion, but the pages of our transactions are quite innocent of recognizing such delectable vagaries.

Many a time our gifted and beloved Stucky

has recounted a witty ancedote whose just and apt and proper purpose was to "point a moral to adorn a (scientific) tale," but no place was ever found for one of these within the sacred pages of our solemn, sombre tome.

And so one might recall many a member splashing into an argument on the floor with a bit of wit and humor wholly apropos and germane and even of high contributory value to the discussion, but because it was tainted with levity, in spite of its evident virility, it died aborning.

And, Mr. President, I assure you I speak at first hand. In my poor and humble and diffident way I have once or twice tried to lighten the leaden weight of seriously ponderous discussion. Of course, my efforts have merely shared the fate of others, so I am neither vexed nor sore.

But I must submit to you that the greatest and most serious thinkers have seldom overlooked the fact that a light or sparkling word here and there does much to attract and catch an audience and hold it.

Socrates, Aristotle and Plato knew it well; Shakespeare was a master user of wit in sharp contrast to severity; Darwin and Huxley knew its value and the joy of using it; the great Osler, sui generis, often used a witty epigram or a sly assertion to drive home a point; the great jurists of all history have known and utilized the deadly efficacy of wit and ridicule; bishops and other prelates of the church may use the weapon

as well in their polemics as their irenics; and even the Holy Scripture regales us with the highly amusing imagery of old Nebuchadnezzar on all fours nibbling at the grass; and the story of the slaughter of the Philistines with the jawbone of an ass, which doubtless has often had a humorously parabolic interpretation.

And so I plead for the admission of a little sunshine amidst the gloom of scientific ponder-osity, wherever it reflects the feeling and the atmosphere of the meeting that is being reported. Members have a right to know what transpires at a meeting and besides it would do much to stimulate interest, especially in those members who have not attended the meeting, as well as to whet their appetites to be present at the next; even if for no other reason than to witness the fireworks.

Verily, the bard of Avon might aptly be paraphrased in fashion like this:

"The man that hath no humor in his soul,
And is not moved where ready wit resounds,
Is fit for treason, stratagems and spoils;
Let no man trust him!"

Of course, I feel perfectly safe in making this discussion since on a basis of past performance, I know that it will never appear in print to give comfort to mine enemies.

And so let us ever pray!

SOCIETY REPORTS

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SOCIETY HELD AT MCNABB'S PLACE ON THE SALUDA RIVER, MONDAY, AUGUST 5TH, 1929

The meeting was called to order at 8:30 P. M. by the President, Dr. Murray, with 45 members and guests present. Dr. Carpenter was called upon to offer the invocation, after which a most enjoyable fish and chicken supper was served. Our guests of honor were Dr. D. Lesesne Smith and some representatives from the Faculty of the Southern Paediatric Seminar.

After supper President Murray called upon Dr. Smith, who made a few introductory remarks, who stated that the student body of the Seminar consisted of physicians from Virginia, Alabama, North and South Carolina, Louisiana, Georgia, Florida, and Mississippi most of whom were general practitioners.

Dr. Smith then called upon Dr. Richardson of Black Mountain, N. C., who mentioned that the Ninth District of the North Carolina Medical Society is putting on a post-graduate course in paediatrics, and that the instructors were members of the State Society. Instrucors were stated as being members of each speciality, namely: surgery, eye, ear, nose and throat, orthopaedics, dermatology, dentistry, especially from a preventive standpoint, and general paediatrics. Dr. Richardson then stated that this work had already reached 100 members of the 9th N. C. District. It was also stated that the members of the North Carolina State Medical Association were attempting to lower the State's. infant mortality rate by the proper education of the public in pre-natal care, this educational program being carried out under the auspices of each County Medical Unit.

Dr. Funkhauser of Emory University then addressed us. His subject was "Vomiting in the New-Born." He stated that it may or may not be due to a serious condition, that it was usually due to dehydration, also lack of food. These cases usually respond to 2-4 per cent glucose subcutaneously, care being taken to rest the stomach from 24-48 hours. In case of no response to this treatment, gastro-intestinal studies should be carried out under the fluoroscope, using barium and breast milk, in which the barium through its weight overcomes the vomiting and increases peristalsis. In dilatatlon of the stomach, lavage increases its tonicity, and ceases vomiting. The hypertonic stom-

ach is relieved by proper doses of atropin sulphate, given hypodermically. Atresia of oesophagus and stomach is rather rare, but is nearly always fatal. Vomiting is the only symptom of this anomaly. Pyloric stenosis, and pyloraspasm do not occur, as a rule until about the 5th week of life.

Dr. Wilson of the faculty of Vanderbilt University was then called upon who spoke on patent foods. He stated that the majority of babies were fed with these foods. Classification of these foods included A. Incomplete foods, or those which had to be mixed with cow's milk and B. Complete foods, usually occurring in the form of desiccated milk. Wilson stated that there was no excuse for incomplete foods as the physician should be able to fee d babies properly. Dr. Wilson mentioned that Mellin's food is merely a carbohydrate (a malt sugar) and that it would suit some babies. He also failed to agree with the manufacturers that Mellin's Food was indicated in the diarrhoeas. Dennis Food is almost protein-free. Imperial Grabnum is also identical with baked starch. Condensed milk consists of Fats 8%, Protein 8% and Sugar 50%. This food feeds more babies than paediatricians, and produces fat babies with little or no resistance to infections, because there is so much sugar. is the diet of the obstetrician, who, finding that the baby does not thrive, then turns it over to the paediatrician as "a feeding case." (This is preferable to fresh cow's milk only when the purest milk is not obtainable. The fat globules are smaller. Imitations of breast milk is not always good because the fat of cow's milk and human milk are different. "S. M. A." and "Recolac" cannot entirely replace mother's milk. In any artificial feeding, the vitamines should be supplied with fresh fruit juices and cod-liver oil, as excessive heat is apt to destroy these vitamines.

Dr. McKibben of Jacksonville, Florida was then called upon. Dr. McKibben stated that the instruction obtained at the Seminar was excellent, and so were the clinles; many rare and interesting cases are encountered. Speaking of larva migrans, (creeping eruption)— it is successfully treated with 1. Carbon Dioxid Snow and 2. Ethyl acetate and celloidin. Dr. McKibben advised us that there were no cases of mastoiditis or rheumatic fever in Florida.

Upon the certificate of Dr. O. L. McFadyen of the Cumberland (N. C.) Medlcai Society, Dr. R. A. Blakey was voted as transferred into the Greenville County Medical Society.

There being no further business, the meeting adjourned.

Chas. C. Grace, M. D.,
Acting Secretary.

THE RIDGE MEDICAL SOCIETY

The Ridge Medical Society met in Dr. Timmerman's offices in Batesburg, S. C., the nineteenth of August at 7:30 P. M., with a larger attendance than usual which included the following named visitors: Miss G. McMaster, Lexington County Health Nurse. Dr. Boyd and Coggeshall of The Murray Lake Company, and Dr. Rob't. W. Houseal of Newberry.

In the absence of the President, Dr. D. M. Crosson acted as such.

Dr. W. P. Timmerman reported a cast of fracture of the frontal bone with some loss of brain substance which recovered with no apparent serious injury resulting, which was discussed by Dr. D. M. Crosson, who saw the case with him.

Dr. R. W. Houseal made a practical address on pernicious anaemia, with special emphasis on the diet.

Miss McMaster gave an outline of her work as Health Nurse among the tubercular and others in Lexington County.

Dr. Westrope also gave an outline of his work as County Health Officer and offered to co-operate with the various doctors in any public health work.

Supper was served at The Batesburg Hotel and was attended by the ladies auxiliary and their guest, Mrs. R. W. Houseal of Newberry.

Dr. W. P. (Timmerman read a sketch of Dr. I. J. Teague of Johnston. He asked the cooperation of others in securing sketches of a few very old physicians, who are not living.

Excellent music was furnished in the dining room by Miss Margaret Edwards on the piano and Dr. G. R. Westrope on the violin.

The following named officers were elected for the next year:

Dr. O. P. Wise, Saluda-President.

Dr. S. M. Pitts, Saluda-Vice President.

Dr. G. F. Roberts, Lexington, Vice President.

Dr. C. Beeler, Edgefield— Vice President. Dr. W. P. Timmerman, Batesburg,— Sec'y.-

Treas.

The president was authorized to appoint all necessary committees.

Short speeches were made by Drs. Crosson, Roberts, Boyd, Coggeshall and Houseal.

The next meeting will be with Dr. and Mrs. James Crosson, in Leesville, in their palatial home.

LATER—September 3—Dr. D. M. Crosson is quite sick at his home with a carbuncle on his neck.

Dr. and Mrs. J. S. Black have returned to Florida for the winter.

DIDHTHERIA DREVENTION

Its Practical Application

Toxin-Antitoxin (Lederle) has immunized many thousands of children against diphtheria. This immunity has lasted for nine years, and may continue throughout life.

Toxin-Antitoxin (Lederle) is especially useful for immunization of the following groups, except immediate contacts:

- (1) All children from 6 months to 6 years of age.
- (2) School children.
- (3) Adults whose daily work might expose them to dipherent

Toxin-Antitoxin (Lederle) and Schick Test (Lederle) are readily available through your druggist.

LEDERLE ANTITOXIN LABORATORIES

NEW YORK

The Inurnal

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879

Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A HINES, M D., F. A C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston. S. C. PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. COBSTETRICS AND GYNECOLOGY

R. E. SEIBELS, M. D., Columbia, S. C. UROLOGY

W. B. LYLES, M. D., Spartanburg, S. C. ROENTGENOLOGY

T. A PITTS. M. D., Columbia S. C.
PATHOLOGY AND BACTERIOLOGY

H. H. PLOWDEN, M. D., Columbia, S. C.

SURGERY

C. B. EPPS, M. D., Sumter, S. C. EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY

J. RICHARD ALLISON, M. D., Columbia, S. C. GASTRO-ENTEROLOGY AND PROCTOLOGY

W. T. BROCKMAN, M. D., Greer, S. C.
NERVOUS AND MENTAL DISEASES

E. L. HORGER, M. D., State Hospital, Columbia, S. C.

MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

MEETING OF SOUTHERN MEDICAL ASSOCIATION

One of the great Associations of the world, numbering now about ten thousand members meets at our very doors in Miami, November 10-22. It goes without saving that a large number of South Carolina doctors have made plans to attend. Dr. William Weston, Councilor of the Southern Medical Association, has named the Sea Board Airline Railway as the official route from South Carolina and suggested that a special train to be called the "lodine Special" would be the best means of travel. It is urged that physicians who may find it convenient to join such a party write either to Dr. Weston at Columbia or to the Division Passenger Agent of the Sea Board at the same place. We believe it would be an opportune time to advertise the natural resources of South Carolina before that great convention as well as take advantage of the fine scientific programs

and the splendid atmosphere of fellowship for which the Southern Medical Association is noted.

FOURTH DISTRICT HAS A GREAT MEETING

One of the important medical societies of the South is the Fourth District representing seven of the prosperous counties of the Piedmont. This Society held a splendid meeting at Central recently under the Presidency of Dr. E. C. Doyle of Seneca. Since its inception more than twenty years ago this Society has kept inviolate its early determination to develop its own membership instead of making the chief feature papers from invited guests. We believe no District Society puts out better programs or has more interesting discussions. Indeed the Fourth District is famous for its large attendance and fine fellowship. The new President, Dr. L. G. Clayton, of Central will continue to inspire the

members of the Fourth District by his wise leadership and enthusiastic devotion to organized medicine. Dr. Clayton is probably the oldest regular attendant of his county society in the State.

THE A. M. A. JOURNAL PASSES THE ONE HUNDRED THOUSAND MARK

We have watched with great admiration for the past few months the increasing circulation of the world's greatest medical journal. have reached the one hundred thousand figure is indeed an achievement of world wide importance. The House of Delegates at Portland authorized the subscription price to be increased from five to seven dollars in 1930. This may look like a marked advance but really it is not when compared with many of the best journals in different parts of the world. Some of the special journals of the A. M. A. have long been increasing their subscriptions eight dollars. When we recall the extraordinary service to the profession and to humanity rendered by the income of the Journal of the American Medical Association and the much larger development contemplated by the Board of Trustees we should be very glad to respond promptly to this small amount of increase next year in the subscription rate.

It is planned that in a few years a new headquarters plant will be erected in Chicago, commensurate with the great interest of the largest and most important medical organization in the world. We fail to see why every eligible medical man in the United States and its possessions should not be a full fledged member of the parent organization. This would mean a normal membership, approximating one hundred and fifty thousand. We are confident that the A. M. A. will make it well worth while for the entire profession of America to come into the fold.

TENTATIVE PLANS FOR FLORENCE MEETING

The Florence County Medical Society under the Presidency of Dr. James McLeod, opened the fall meetings on the night of October 8, and in addition to some very interesting papers read by local members, heard addresses by President May of the State Association, Dr. Hugh Smith, Chairman of the Scientific Committee, the Secretary Editor and guests from neighboring counties. At this time details were discussed by various committees and the Officers of the State Medical Association, looking to the success of the meeting of the State Medical Association at Florence early in May 1930. One gratifying feature is very evident, that is, the whole Pee Dee section of the State will cooperate to make the next meeting a great success. There is a definite determination on the part of the Officers and the Scientific Committee to put through a program, replete with practical papers, each one limited strictly to the fifteen minute rule provided by the By-Laws and with the usual five minute discussion. The Committee decided to modify the program of opening exercises by making them less formal thus saving considerable time at the beginning of the meeting for scientific papers.

There was a general agreement, too, to make a place for entertainment features designed to relieve the strain of long hours of steady grind with scientific papers. Further details will be published as time goes on.

The Florence County Medical Society inspired as it is by one of the important medical centers of the South always measures up to every expectation when it comes to entertaining the South Carolina Medical Association.

ORIGINAL ARTICLES

*SOME USES OF MAGNESIUM SUL-PHATE IN SURGICAL PRACTICE

By J. R. Young, M. D., Anderson, S. C.

"Why, in God's name, in our days is there such a great difference between the physician and the surgeon? The physicians have abandoned operative procedures, either as some say, because they disdain to operate with their hands, or rather as I think, because they do not know how to perform operations. Indeed, this abuse is so inveterate that the common people look upon it as impossible for the same person to understand both surgery and medicine. It ought however to be understood that no one can be a good physician who has no idea of surgical operations, and that a surgeon is nothing if ignorant of medicine." Harvey Cushing who quotes the above statement adds "that it was transcribed from writings that exist only in manuscript, since Lanfranc, called the founder of French Surgery, who expressed the sentiment lived two centuries before Guttenburg."

The statement that "no one can be a good physician who has no idea of surgical operations and that a surgeon is nothing if ignorant of medicine" contains a perennial truth, though it was uttered in the thirteenth century. It may be that in our own state and in our own day, the surgeon is tempted to become merely the dextrous operator and the physician too readily refers even minor operations to the surgeon. Having in mind that "The surgeon is nothing if ignorant of medicine" I have chosen a very common, a very cheap, and a very humble medicine for your consideration.

In this paper we propose to present our experience in treating a variety of pathological states with Magnesium Sulphate. Let us emphasize in the beginning, two facts. (1) A balanced presentation of these varied diseased conditions is not attempted and (2) Magnesium Sulphate is only a part of the treatment

*Read before the South Carolina Medical Association, Charleston, S. C., May 8, 1929.

and is prescribed only as a valuable adjunct to the generally accepted methods.

For the sake of convenience only we will divide the subject into three parts according to the method of administering the drug—by mouth, by needle, and by local application.

1. In our experience, Magnesium Sulphate in half ounce to one ounce dose in small quantity of hot water is a reliable remedy for the mild post-operative abdominal distention that does not respond to the invitation of an enema. While usually this distention occurring on second or third post-operative day is satisfactorily relieved by enemeta, every surgeon sees sometime a patient who is not relieved by this method; and in such cases this old fashioned, quick acting purgative will often give relief and is much less drastic than the Pituitrin which we sometimes use. And in case it is not effectual, the latter may still be given.

Again, we have found Magnesium Sulphate by mouth in daily doses of one ounce in hot water, of distinct value in the preoperative treatment of the acute, febrile exacerbations of gonorrheal salpingitis with pelvic peritonitis. As every surgeon knows, it is safer to operate upon such cases after the so called "freezing" process has been established and the patient has become afebrile or nearly so. This state is hastened in our experience, by adding to the usual treatment—Fowlers position, Murphy drip, opiates as necessary—the giving daily of an ounce of Epsom Salts. This is not an original idea but since hearing of its use in this class of cases, we have tried it out and have become convinced of its value.

Again, in post operative management of local or diffuse plastic peritonitis, Magnesium Sulphate may give valuable aid. By refering to a patient recently treated in this way, we can best present this for your consideration.

A young man of thirty, admitted to the hospital on sixth day of an attack of acute appendicitis having general distention and rigidity and other symptoms of diffuse peritonitis. At operation under local anesthesia on seventh

day, a ruptured, gangrenous appendix with diffuse plastic peritonitis was found. plastic exudate and edema of terminal ileum and caecum were especially marked. operative treament consisted in semi Fowler's position, Murphy drip of hypertonic alkaline solutions, fluids freely in axillae, opiates as needed, diathermy twice daily through abdomen, stomach wash as needed. At end of second day after stomach wash, one ounce of Epsom Salts left in stomach. The free watery evacuation in a few hours not only emptied the distended bowel of some of its toxic content, but tended to reduce the edema about the ileocecal angle just as it tends to reduce edema of feet or eye lids. This dose was repeated daily for three days, when the distention had largely disappeared. The patient made a good recovery. In several other ruptured appendix cases having marked edema about the ileo-cecal angle, we have used salts with good results. I suppose this treatment is contrary to the dictates of accepted surgical treatment of today, but is there any good reason why this is not a logical procedure? Magnesium Sulphate by mouth in the peritonitis patient whose abdomen is splinted and whose sensibilities are numbed with opiates, seems to cause very little peristaltic pain. If a bowel has been demonstrated at operation to be markedly inflamed and edematous, why is it not good therapy to reduce the edema and thereby lessen the degree of partial mechanical obstruction at the ileo-cecal angle and at the same time flush out toxic contents of the proximal distended gut?

II. "In hypertonic solution Magnesium Sulphate intravenously will decrease cerebro spinal fluid pressure and reduce brain bulk." Our experience in using this drug intravenously agrees with this statement quoted from an article in Journal American Medical Association by McNeile and Vruwink.

To reduce intra-cranial pressure we have used Magnesium Sulphate intravenously (a) in brain injuries. In any case of skull fracture when operation is not indicated, this procedure may form a valuable adjunct to the usual methods of threatment. A case so treated by us not long since made a good recovery after having been in coma for several days. In this

case X-ray showed linear fracture of vault with no localizing symptoms. Spinal fluid pressure was high as revealed by spinal manometer Spinal punctures were done daily, fluid being withdrawn until pressure was normal. The spinal punctures alone might have sufficed to relieve the increased pressure but the additional measure of giving twenty cubic centimeters of ten per cent solution of Magnesium Sulphate seemed worth while since the coma was due not to the fracture per se, nor to hemorrhage as proved by the clear spinal fluid, but to traumatic edema of the brain. Since Magnesium Sulphate does dehydrate swollen tissue it would seem logical after doing a spinal puncture (and thereby temporarily increasing space in skull) to give intravenously an agent that would cause the swollen cells to give up some of their fluid and thus decrease intra cranial pressure.

CASE REPORT.

(b). In treating edema of the brain of toxic origin, we have found Magnesium Sulphate given intravenously, useful. This group is well illustrated by toxemia of pregnancy and eclampsia. I suppose that one hundred per cent of the doctors present who treat toxemia of pregnancy prescribe epsom salts by mouth. McNeile and Vruwink have suggested that the relief of headache which usually follows its use in such cases may be due to cerebral dehydration and not merely to its purgative effect.

And Martin Fischer teaches in his book on "Edema and Nephritis" that the varied symptoms present in such cases are due to same diseased condition—namely edema or hydration —in different tissues and organs of the body. The edema of face, hands, and feet as seen by the eye; the edema of the kidneys as evidenced by albumin and casts in urine; the edema of the brain as evidenced by headache, or, in a more advanced state, by convulsions; edema of the retina as shown by blurred vision are all similar expressions of different tissues and organs to a common toxic agent. We may not give to this toxic agent a specific chemical formula but we may designate it as the undesirable "left overs" resulting from increased metabolism of the "two in one" woman. On this hypothesis the sine qua non of treatment,

would be DEHYDRATION plus what sedatives might be required, to prevent serious damage to vital organs like the kidneys and brain. Is not this the essence of the treatment that you have found most satisfactory in toxemia of pregnancy and eclampsia? In several pre-eclamptic patients we have seen the headache and the impaired vision relieved by giving twenty cubic centimeters of ten per cent solution Magnesium Sulphate as indicated. Last week the last pre-eclamptic patient we have treated was admitted to the hospital near term. She was a fat primipara of thirty who had not responded to treatment at home carried out by a very capable physician. Her blood pressure was 188/110: she had some disturbance of vision and headache; a plus two albumin and a moderate edema. She was given twenty cubic centimeters of ten per cent Magnesium Sulphate intravenously and one fourth grain Morphine on admission at ten P. M. The next morning she was given one ounce Magnesium Sulphate by mouth. At this time the headache had disappeared and did not recur. Labor was induced by bag and the patient was delivered forty-eight hours later. Her blood pressure a few hours before delivery was 150/90.

But when eclampsia has already developed, nothing in our experience in a few cases, has been more effective in controlling the convulsions than the same dose of Magnesium Sulphate intravenously, repeated every few hours as indicated. We have never seen any respiratory embarrassment from its use. Meltzer has pointed out that any respiratory difficulty caused by its repeated use is immediately relieved by injecting a few cubic centimeters of Calcium Chloride solution intravenously.

(c). The surgeon occasionally, and the physician often has to treat so-called uremia. Without going into details, probably all will agree that the usual pathological back ground of this syndrone is vascular disease with a resulting edema of various tissues and organs. Edema of kindneys results in low urine output with albumin and casts; edema of brain may cause only headache, but when it increases enough to cause coma or convulsions we call the condition uremia or uremic poisoning. In such cases Magnesium Sulphate intravenously

may give valuable aid. The following case is illustrative:

Mrs. L. age eighty-two, had suffered with cardio-vascular-renal disease for many years. Last December, as a sequel to a mild respiratory infection, she developed an unusual sluggishness and dizziness which progressed to a light convulsion followed by coma. Three doses of twenty cubic centimeters Magnesium Sulphate intravenously, together with the usual symptomatic treatment relieved the condition after she had been in slight coma for several days.

A few days ago a man of sixty-five was admitted to hospital having shortly before been found in unconscious condition on floor of machine shop. He had evidently fallen as he had bruises on scalp and face but these proved to be of minor importance. He was found to have chronic vascular disease. Nausea, vomiting and coma indicated cerebral edema. He was given epsom salts by vein and soon regained consciousness.

(d) Meltzer reported a few years ago on the use of Magnesium Sulphate intravenously in treating tetanus. The dose advised by him for adult was one cubic centimeter of a twenty-five per cent solution for each twenty pounds of body weight and about half the relative dose in children. He reported that convulsions were markedly relieved—usually for twelve hours or longer—and that it had therefore proven a valuable adjunct to the treatment by tetanus antitoxin.

We have had this verified at the Anderson Hospital in one case treated by Dr. II. H. Harris. His patient recovered after 10 days intensive treatment by tetanus antitoxin during which time relaxation and ability to take food was secured by giving Magnesium Sulphate intra-spinally. We have likewise had at the Anderson Hospital one case of strychnine poisoning in which convulsions were relieved by this remedy.

111. We have found Magnesium Sulphate in 5 to ten per cent solution, a valuable remedy for local application in inflamed or suppurating wounds. Within the past few days we have treated erysipelas of the fore arm in this way with satisfactory results. And we have in the hospital now, a patient with phlebitis, involv-

ing both internal saphenous veins, who has been helped by application of compresses wet in warm five per cent solution of Magnesium Sulphate. This treatment seems to cause an influx of healthy serum rich in anti bodies to the affected part. And if the wound is suppurating the discharge soon changes to a serous discharge. These results are not due to any germicidal action of the drug for it has no such property. They must be due then to some such action as suggested above, and this action the ability to dehydrate inflamed edematous tissue-whether it be brain tissue, kidney tissue, or cellular tissue is the common denominator that makes this cheap, accesible drug a valuable remedy in such a variety of diseased conditions.

Bibliography

The Physician and the Surgeon—Harvey Cushing.

Magnesium Sulphate Intravenously. Journal A. M. A. 87; 236-239 July 24, 1926. Mc-Neile, Lyle G., and Vruwink, John.

Oedema and Nephritis—Martin Fischer. John Wiley and Sons, Pub.

Inhibitory Properties of Magnesium Sulphate and their therapeutic Application in Tetanus. Journal A. M. A. 66; 931-934. S. J. Meltzer.

DISCUSSION

Dr. J. S. Rhame, Charleston: I have listened with a great deal of pleasure to Dr. Young's paper about the use and almost in some instances, I might say, the abuse of magnesium sulphate. Frankly, I have never been so bold as to be quite so heroic in giving laxatives and purgatives postoperatively as he has. On the other hand, I want to commend him for his originality in going ahead. We never get anywhere if we do not try. Most of us have been greatly annoyed, on the second or third day, by postoperative distention due to paralytic ileus -we hope it is not mechanical, at any rate. We hear of the use of all kinds of enemas. I see no objection to the use of magnesium sulphate in certain cases. I take it for granted that the doctor does not use it as a routine in all cases; no doubt he has selected his cases. In the ordinary appendix case there is doubtless very little danger of peristaltic action reopening the lumen of the appendix. I certainly do not see that giving magnesium sulphate would do any more harm than giving pituitrin,

because you know where you do get a response it is rather violent and patients sometimes suftive administration of pituitrin. So I want to fer a great deal of pain following the postoperacompliment Dr. Young on the use of magnesium sulphate.

I think we are all pretty well agreed on the usefulness of magnesium sulphate in the toxemias of pregnancy, in the eclamptic or pre-eclamptic states, and also in head injuries, whether it is used intravenously, subcutaneously, or intraspinally. Personally I have used it subcutaneously and intravenously.

I think we are often inclined to try things simply because they are new but come back to our old friends, finding them like an old pipe, the sweetest after all.

Dr. George H. Bunch, Columbia: There is one statement Dr. Young made which I think should not go unchallenged, and that is that magnesium sulphate could possibly be of benefit in acute peritonitis after operation. We know the most essential thing in the treatment of peritonitis is physiological rest, and we know that any cathartic (which includes magnesium sulphate) increases peristalsis and stimulates the gut instead of putting it in a state of physiological rest. I have made it a practice, ever since I have been doing surgery, of watching people after abdominal operation; and those with acute peritonitis I think surely do better if kept under the influence of morphin with hot stupes on the abdomen. I have been called into consultation more than once to see the patient of a brother surgeon who has had a cathartic administered too soon after operation, and he is sure to do badly. I am sure if this practice is adopted we shall see our mortality increase very considerably.

Question: Please give the contraindications to giving two cc of fifty per cent sol. in eclampsia.

Dr. Young, closing the discussion: I do not think there would be any objection to using the dose of magnesium sulphate that you mention. I suspect the dose that you refer to, for use in eclampsia, is probably the dose used mostly by obstetricians. I happen to have the large ampoules of 25 % sol., on hand, and that is why I use them.

Magnesium sulphate is not applicable to the routine care of abdominal operation cases. The patient I refer to is the one not relieved by enemas. I have found by trying that such case may be relieved by magnesium sulphate. All of us have some cases that have some distention on the second or third or fourth day; we look for it to go down, but it does not, and possibly they

begin to vomit. In these cases this remedy is worth trying.

In a diffuse spreading peritonitis I think if we give magnesium sulphate it will do no good and may even do harm. If the patient has plastic peritonitis, with very heavy plastic exudate around the cecum, there is often a mechanical element. In those cases where you have operated and drained the area, using the Fowler-Murphy treatment, very often if you use the magnesium sulphate you will find it does help them. I have seen it help such cases.

*THE DIAGNOSIS AND MANAGEMENT OF HEART WOUNDS

By Roger G. Doughty, B. S., M. D. Columbia, S. C.

This paper is based on two cases of stab wound of the heart which were operated upon. In each instance the wound was in the right ventricle extremely close to the descending branch of the coronary vessel. Death followed the formation of an intra-ventricular clot in one while the other recovered. Both are reported in detail elsewhere in the literature.

The large majority of heart wounds are practically immediately fatal and for this reason their operative treatment will remain relatively rare. It is only relative however, for 402 cases of stab wounds were collected from the literature in 1924. The mortality in such collections varies between 40% and 60%. When it is remembered that there is little incentive to report unsuccessful results it is obvious that this figure is low.

In the field of cardiac surgery, as in so many others, the application by the surgeon of established experimental facts was very tardy. Block, in 1882, reported the results of the surgical treatment of experimentally produced heart wounds but it was not until 1895 that Cappelen, a Norwegian, performed the first operation. The first successful repair of a lacerated human heart was by Rehn in 1896.

The opportunity to suture a wounded heart may come to the surgeon ripe in experience and fully prepared for the trying undertaking or it may be forced upon the physician at the very beginning of his career. To look forward to this emergency and prepare for it is such

and abstract proposition that few force themselves to it but to successfully deal with the situation some preparation is essential, an understanding of the structure of the thorax and mediastinum of course, but also some comprehension of the mechanism of the lesion and its physiological consequences.

The ventricles of the heart are composed roughly of v-shaped loops of muscle extending from the base toward the apex. A tranverse laceration severing all of the muscle fibres throughout its length will result, as was shown by O'Day, in an explosive rending of the ventricular wall. An oblique incision leaving intact parallel muscle bundles relatively close together tends to close with each systole. In general, wounds in the auricles and the right ventricle bleed constantly while those in the left ventricle, where the blood is under high pressure, bleed in spurts.

Extensive injuries of the pericardium, allowing the free passage of blood into the pleural cavities or to the outside of the body, present essentially the problem of an exsanguinating hemorrhage. A clean incision leaves the pericerdium practically fluid tight and permits the blood to accumulate in the cavity. As the intra-pericardial pressure rises a progressively lessening amount of blood escapes from the heart with each beat and, relaxation being hindered, it can receive only a constant diminishing volume of blood into its chambers. It is obvious that when the intra-pericardial pres-

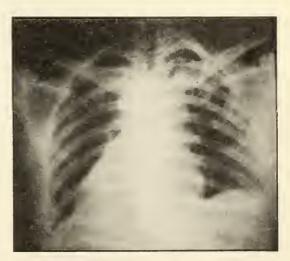


Figure I. The pericardium distended with blood. Heart tamponade

^{*}Read before the South Carolina Medical Association, Charleston, S. C., May 8, 1929.

sure reaches the venous pressure heart action must stop but a very delicate adjustment has been known to presist for hours before this denouement occurred (Fig. 1.)

In addition to heart tamponade two other factors enter the picture. They are: heart shock, which results from any cardiac wound even though it does not penetrate the wall; and the formation of a blood clot. The former further impairs the heart efficiency, while the latter, though it may plug the hole, adds to the burden of the struggling organ by forming a wall of relatively solid matter around it.

Cardiac injuries are not always easy to recognize. The typical picture is that of a patient with a precordial wound which may or may not bleed freely, extremely restless, or in a frank delirium, profoundly shocked, pallid, sweaty, and with a feeble or absent pulse and a very rapid heart beat. There is an altered apex beat with distant heart sounds. The increase in cardiac dullness cannot always be demonstrated and a haemopneumothorax may complicate matters.

The delirium and wild thrashing about of a person who is pulseless and obviously in profound shock is a striking thing. Its opposite, absolute rest, is of course imperative. A large dose of morphine will usually change the picture from one of imminent death to that of a quiet, co-operative patient with a relatively good pulse and a heart rate moderately above normal. (Fig. 11). The use of cardiac stimu-

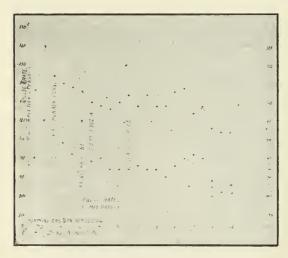


Figure II. Shows the drop of the pulse rate under morphine and the rise in temperature

lants or drugs that increase the blood pressure naturally occurs to everyone but it is distinctly contra-indicated because such stimulation would only increase the loss of blood from the circulation and raise the intra-pericardial pressure if tamponade be present. For the same reasons the injection of salt solution before operation is, at best, a questionable procedure.

Operative interference should be undertaken as soon as possible. In deciding upon the type of incision it is necessary to consider the probable extent of the lung injury, the presence or absence of a haemothorax and the probable location of the wound in the heart. In general, the best approach is by a hinged resection of two or more of the costal cartilages. The hinge may be placed either medially or laterally. The exposure must be adequate and for his reason it is better to make the incision too large than too small. With a true heart tamponade there should be no difficulty in identifying the distended pericarium. Its bluish color is reminiscent of the peritoneum in ectopic pregnancy. On opening it the blood and blood clots should be removed by suction and with the gloved Sponging with dry gauze should be avoided for it traumatizes the covering of an organ that must be in constant motion. The heart may be steadied by inserting a stay suture in the apex of the left ventricle, never the right. Twisting the organ, rotating it on its axis, and squeezing produce fibrillation. They should never be practised. Gentle lifting of the heart from its bed causes much less disturbance and will permit inspection of most of the posterior wall.

No great difficulty is ordinarily experienced in the placing of the necessary sutures though the wound may be too close to a coronary vessel for much comfort. (Fig. 111). Should one of these vessels be injured it is well to remember that recovery has followed ligation below the main branches but never above them. The wall of the right ventricle is extremely thin and friable. Because of this a small sized catgut suture should be used and the stitch tied with extreme care so that there is just enough tension to approximate the edges and control the bleeding. The needle holes tend to ooze. This might be avoided by using a needle with the catgut fixed in its end or by using a double



Figure III. The sutures in place and tied. Note their proximity to the coronary vessels

suture. There is also a marked tendency on the part of the sutures to "cut out." In the thick-walled left ventricle a linen stitch which was not allowed to penetrate the endo-cardium would seem to be ideal. In the auricles it is obvious that the same care is demanded as in the right ventricle.

There is much dispute as to the advisability of draining the pericardium. It seems obvious that some provisions must be made for the escape of the pericardial fluid that will form but it is equally obvious that a drain will irritate the moving organ almost beyond endurance. To escape this dilemma about one inch of the lower portion of the pericardial incision was left unsutured in one case. A drain was placed opposite this opening down to the level of the under surface of the costal cartilages but not in contact with the pericardium.

During the operation stimulation may be begun. Intra-venous salt solution may be given or a transfusion resorted to if the loss of blood makes it necessary.

The post-operative treatment may be summed up in one word, morphine. Unless this

drug is used in heroic doses there will be a return of the restlessness or delirium and the patient will literally wear himself out. Absolute rest is almost as imperative as the operation itself. Digitalis may prove a valuable aid but theoretically nothing should be done that will increase the strain upon the suture line for instances of secondary blow-out with disastrous results have been recorded.

In each of our patients the pulse was dicrotic in character both before and after operation. In the case that recovered it remained so for more than a month. This was interpreted as one evidence of the embarrassment of the vaso-motor system. In this connection the postoperative blood-pressure readings are extremely interesting. For three days after operation there was a definite hypertension, the highest reading being 162/118. (Fig. IV) If

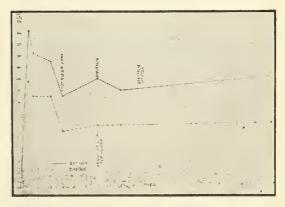


Figure IV. Note the post-operative rise in both systolic and diastolic pressure

similar observations have been made they certainly have not been given any prominence for the only mention of the blood-pressure found in a rather careful search of the literature is by Beck who observed a transitory rise in some of his dogs after the experimental production of tamponade by the injection of salt solution into the pericardium. The hypertension and the dicrotic character of the pulse both seem to indicate that the vasomotor system was interfered with, probably through pressure at the base of the aorta during the period of tamponade. If this be the true explanation postoperative hypertension should only occur in those cases in which a true tamponade has been present and it should be absent in those in

which the pericardial wound has permitted pericardial decompression.

During the convalescence both the blood-pressure and the pulse rate were found to vary in the course of a few minutes. It amounted to as much as 20 beats a minute during a three minute count and to 20 mm. of Hg. in the same interval in the case of the blood pressure. The observation was made repeatedly and was regarded as further evidence of the struggle of the heart and vaso-motor system to reach a normal stability. No extra-systoles were detected at this time.

The complications of heart wounds are many. Pulmonary emboli are probably the true explanation of the most frequently recorded one, namely pneumonia. The condition should be more accurately diagnosed. Intra-cardiac clot produced death in our fatal case. Embolic phenomenae in the general circulation frequently follow wounds of the left ventricle. Infectious pericarditis has been a very common cause of death both during the convalescence and later through cardiac embarrassment from its resultant pericardial adhesions though it is remarkable how little post-operative adhesions seem to bother the organ as compared with those caused by a true adhesive pericarditis.

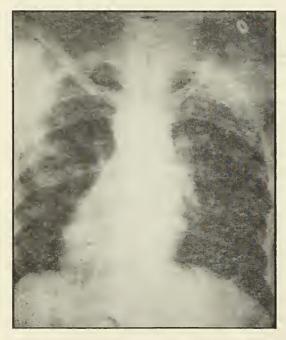


Figure V. Showing relatively normal appearance of the cardiac shadow several weeks after operation

(Fig. V.). Post-operative shock and secondary haemorhage claim a large percentage and there are other less frequent complications.

It is necessary in concluding to emphasize again the importance of morphine. Its post-operative use in sufficient amounts to produce rest, even though the dosage seems beyond all reason, is, in our opinion, essential and its pre-operative use only a shade less important.

References

Schoenfeld, H. H. Heart Injuries with Suture. Ann. Surg. 1928, vol. LXXXVII p. 832.

Rhodes, R. L. Suture of Stab Wound of the Heart. Ann. Surg. 1925, vol LXXXL. p. 757. Cole, W. H. Suture of Wounds of the Heart. Ann Surg. 1927, vol. LXXXV, p. 647.

O'Day, J. C. Pericardial Decompression in the treatment of Wounds of the Heart after Cardiorrhaphy. Ann. Surg. 1927, vol. LXXXV, p. 653.

Vaughn, G. T. Suture of Wounds of the Heart. J. A. M. A. Feb., 1909, vol LII, p. 429

Cox, D. M. Wounds of the Heart. Arch. Surg. Sept., 1928, vol. 17. p. 484.

Lockwood, A. L. Surgery of the Pericardium and Heart. Arch. Surg. 1929, vol. 18, p. 416.

Ibid.—

DISCUSSION

Dr. LeGrand Guerry, Columbia: In the first place, I want the essayist to consider that I have paid him all the compliments I possibly could for the very excellent presentation of an extremely interesting case. So far as I know, this is the first successful case of stab wound of the heart that has ever been done in this state. There have been quite a few of them, but so far as I know this is the only successful case of the sort in South Carolina.

I am disposed to be a bit reminiscent and make this remark. Years and years ago, when I was in medical school studying under the essayist's father, the late Dr. Doughty, I was in the dissecting room one afternoon dissecting a heart. Dr. Doughty came in and asked what I was doing. I said: "Some day I am going to operate on a patient with stab wound of the heart, and I want to be prepared to do it." I have been in Columbia thirty years, and there have been three of these cases. One of them was done by Dr. Bunch. That case came near getting well; the patient lived about twelve or fifteen

days and then died of pneumonia. Both of the other cases fell into Dr. Doughty's hands and were operated on by him. That is as near as I have come to operating for stab wound of the heart.

I want to emphasize one of the points Dr. Doughty brought out in his paper—the use of morphin. After operating on this case Dr. Doughty came to me and was discussing it with me, asking my advice; and I said: "Put the man to sleep and keep him that way." It is absolutely impossible, I think, to overemphasize that particular thing. It is as much of a stimulant as a patient will need under these conditions, and it puts him to sleep and keeps him quiet and gives nature the chance she seeks to do the reparative work.

There is one point I wish to emphasize. I wish Dr. Doughty's last picture were on the screen, the picture in which he shows the temperature and pulse, because I think in this point we are certainly up against a problem that applies to the great emergencies in surgery, the great crises in surgery. If I am not mistaken, it is a principle. Of course, it is rather dangerous to get up and state a thing as a fundamental principle, because there are not many of them. But I am just wondering if, in discussing this aspect of the case, we are not in the presence of one of the fundamental principles of reparative surgery. The point is this; if this case had been rushed to the hospital and operated on immediately as an emergency case, with the pulse at the vanishing point, I believe the case would have been lost. The point is this; there are so few emergencies that are so urgent that you have not a reasonable time to protect the patient, to get him in better condition. That, in my opinion, is what saved this patient-the giving of a half grain of morphin. He came in in a practically dying condition but in an hour was put on the operating table and survived. There are few illnesses so critical that you can not take a little time to get the patient in better condition.

There is one thing about the medical management of this case I want to state. Dr. Tolbert was the man who made the diagnosis in this case, and he was so staunch in his diagnosis and so insistent upon operation that he forced a reluctant surgeon to operate. You know that is uncommon. I think Dr. Doughty had quite a question in his mind for a while; still he yielded; and as a result the patient was exhibited to you here this afternoon.

Dr. D. L. Maguire, Charleston: I want to say that I also had a successful heart suture back in 1924. That case was reported in SURGERY, GYNECOLOGY, AND OBSTETRICS in May, 1925. The operation was done at Roper Hospital, for stab wound of the heart. The patient was operated on about one hour after he came to the hospital. In my case the man developed a pleural effusion which I had to drain twice, one about five or six days after the operation, because I tore into the pleura in getting into the mediastinum. We drained off about four or six ounces of straw-colored fluid and then drained again forty-eight hours afterward. During the operation the man's heart stopped completely, and it looked as if he was absolutely going out, but we injected adrenalin directly into the heart muscle, and you could see it pick up and go ahead. That patient was in the hospital for about two weeks. His convalescence was not stormy, and he was discharged in good condition. I have not heard from him in about six months, but the last I heard was that he was a mess-boy on a steamer between here and Bal-

Dr. Doughty, closing the discussion: The first case that I saw, as I said, was extremely restless, with this striking pulseless condition. This second case Dr. Tolbert saw and recognized the situation at once. When I arrived he was lying up in bed perfectly rational, perfectly quiet, with a pretty good pulse—entirely different from the first case I had seen; and I think it was perfectly natural that I was uncertain about the operation. Dr. Tolbert told me about his condition when first seen, and cleared away my doubts and we went in.

I think stimulants before operation are definitely contraindicated. After the operation, or during the operation, you can give stimulants as needed. As to the matter of morphin after operation, I found it very difficult to follow Dr. Guerry's suggestion to literally keep the man asleep; it was hard to get the nurses to do it. They were afraid to do it. This man, after coming off the operating table, was given 3-8 grs. of morphine by injections on top of an initial heavy dose. We left him so absolutely alone that it was hard later to get a bowel movement; it was two weeks, literally, before he had a bowel movement.

*TOXEMIA OF PREGNANCY

By H. W. deSaussure, M. D., F. A. C. S. Lecturer on Obstetrics, Medical College of the State of S. C., Charleston, S. C.

Toxemia of pregnancy may be defined as that syndrome characterized by albuminuria, hypertension and convulsions or coma, appearing in the latter half of pregnancy.

It is a well known, but unexplained fact, that the same condition in a man or non-pregnant woman is not so apt to cause convulsions and coma. An acute nephritis in a normal adult usually runs its course without convulsions, but in the presence of pregnancy, nearly always ends in convulsions and coma.

In the causation of these violent motor and cerebral phenomena, we believe, there is a toxic element,—in some cases there is indubitable evidence of a true toxicosis. These are the patients with true eclampsia, but in the present state of our knowledge we group all cases of convulsions and coma, late in pregnancy, not due to extraneous causes, under the term, "Eclampsia."

Eclampsia, therefore, is not a disease, but the symptom complex of several underlying causes, and before convulsions occur, we have a stage, more or less long, full of symptoms and signs which point to the cataclysm which is pending. This stage is called, "The pre-eclamptic State" and the patient is said truly to be threatened with convulsions.

Barr suggests the word, "ECLAMPSISM" for this prodromal or pre-eclamptic stage and DeLee recommends its general adoption, to include all cases of toxemia in late pregnancy, which may lead, if untreated, to convulsions, coma or both.

We know as little today of the cause of this affection as was known twenty years ago and, therefore, I shall not go into a discussion of the many theories that have been advanced, except to say that the most plausable one is that eclampsism and eclampsia are one form of toxemia, and a physico-chemical disturbance of metabolism occurs, and that some poisons circulate in the blood which cause the general edema; changes in the liver and primarily or

secondarily, changes in the kidney and, convulsions by direct toxic action on the cerebral cortex.

The brain shows flattening and moderate edema of the convolutions, sometimes anemic, sometimes congested. Small or large hemorrhages or areas of softening with thrombosis have been seen (Schomrl). Apoplexy is not uncommon, especially into the ventricles.

Perhaps, in the liver the most typical changes are found. There is albuminoid degeneration with hemorrhagic and anemic necrosis. These foci of necrosis are found near the small portal vessels, which are often thrombosed. There is also fatty degeneration of the periphery of the lobules, which may be so marked as to resemble acute yellow atrophy of the liver. There may be a general autolysis of the liver or only cloudy swelling. Hepatitis and perihepatitis hemorrhagica are nearly always present.

In the kidneys cloudy swelling and fatty degeneration of the epithelium are the rule. Thrombosis of the glomeruli and smaller veins and arteries are common—(nephrosis). Evidence of acute inflammation may sometimes be found.

Circulatory System.—The ventricles are usually contracted, the auricles full of dark blood which does not clot readily. The heart muscle is fatty with tiny hemorrhages, necroses and thrombi. Fatty heart is found in those cases which had been given large doses of chloroform and chloral.

Thromboses and emboli in fine vessels are common in the lungs, liver, kidneys, brain and skin. They consist of liver-cells, endothelium and syncytium. The latter, however, has no significance, being found in normal puerperae. Microscopic findings of the blood are not constant. The red cells are sometimes increased and there is a marked leukocytosis.

The lungs almost always show congestion and edema, and very often hemorrhages, usually under the pleura. Bronchopneumonia, due to aspiration, is not unusually found. Septic pneumonia may be the cause of death.

Barr and others have found changes in the fetus which correspond with those in the mother, especially when the child died of convulsions.

The symptoms of toxemia are too well known

^{*}Read before the South Carolina Medical Association, Charleston, S. C., May 9, 1929.

for me to burden you with their recital; but the danger signs of impending trouble should not be ignored, and any patient, in the latter months of pregnancy with a rise in systolic pressure over 130 and albuminuria will bear watching.

With the appearance of the first signs of eclampsism, treatment must be instituted. There are three indications to be met:

- (t) The diet should contain enough protein to sustain life, in a form easiest assimilated and that will leave the least waste which throws extra work on the liver and kidneys.
- (2) The kidneys should be aided to throw off the excess of poisons in the blood.
- (3) The termination of pregnancy is to be considered.
- (1) The patient is put to bed and the diet is restricted to fluids for the first twenty-four hours, giving large quantities of water and fruit juices, but no milk. Fresh and cooked vegetables, cereals, breadstuffs, sugar and butter are added on the second day and, as the condition improves animal protein is included in the diet Unless edema is marked, salt is not omitted from the diet.
- (2) Excretion by the bowels and kidneys is increased. The bowels are kept open by saline laxatives and mild vegetable cathartics. Violent purgation I believe does harm. The patient is encouraged to drink copiously, particularly water. Medicinal diuretics have no place in the treatment and in my opinion, are irritating to the already damaged kidney.

Sweating is not only dangerous on account of its depressing effect, but inefficient, because very little besides water is eliminated by the skin. Werner and Kolisck having proved that the serum from edematous parts is more toxic than that of the general system, it would be illogical to sweat the patient and cause absorption of these toxins. With the exception of magnesium sulphate and morphine drugs are worse than useless. Venesection is of doubtful utility, as it seldom gives more than temporary improvement of the symptoms.

In 1916 Fischer recommended Magnesium Sulphate for Eclampsia. It is slightly anaesthetic and de-hydrating, reduces the edema of the brain which causes the headache and the convulsions. It is given intramuscularly in 4

c. c. of a 50 per cent. solution 2 or 3 times a day in cases where the eclampsism is moderate, this with rest in bed and diet reduces blood-pressure and increases the urinary output, tiding the patient over an emergency, whereby pregnancy may be prolonged to increase the viability of the fetus. When the symptoms have been controlled labor can be induced with comparative safety.

Although Williams, Davis and Edgar claim Eclampsia is preventable, I do not advise continuing the treatment indefinitely, certainly not beyond the 38th week, because as the patient approaches term the danger of convulsions is markedly increased.

(3) The consideration of the termination of pregnancy is practically the treatment of eclampsia. When the patient has had the first convulsion or presents the symptom-complex, pre-eclampsia characterized by headache, mental hebetude, spots before the eyes, bright lights, dimness of vision, photophobia, nausea vomiting and epigastric pain, the time for masterly inactivity has ceased. The mortality of eclampsia is still from 6 to 45 percent for the mother and 20 to 60 percent for the child.

The plan of treatment that perhaps gives better results, with modifications to suit individual cases, was first suggested by Stroganov in 1909, of rest, moderate doses of morphine and elimination. The patient is given 1-4 grain of morphin by hypodermic, and 20 c. c. of a 10 percent solution of magnesium sulphate intravenously, the morphin is repeated in 2 to 4 hours, and the magnesium sulphate is repeated in one to two hours until the convulsions are controlled. If the patient is conscious, water is given freely by mouth, or normal salt solution is given intravenously or under the skin; if the patient shows signs of acidosis, 5 to 10 percent solution of glucose given in the vein is followed by marked improvement.

Following the convulsions, labor pains usually come on; the attendant should stay by the patient and watch the progress of labor. The pains are usually strong and delivery is soon effected, if the cervix is fully dilated the patient is delivered by forceps, if the head is engaged or version and extraction if the head is above the brim.

If labor does not occur spontaneously it must

be induced, the method depending on the period of pregnancy, the patient's surroundings, the condition of the cervix, the presence of complications, such as contracted pelvis, placenta previa and abruptio placenta. As all children die before the seventh month it is only necessary to have enough dilatation for craniotomy and extraction. After the seventh month our efforts should be directed to saving the baby as well as the mother.

Perhaps the simplest method with the least risk of infection, is to puncture the membranes and allow the amniotic fluid to drain away, which is followed in from one to twelve hours by regular and efficient pains, or dilatation may be hastened by the introduction of a bag after rupture of the membranes. When the bag is expelled dilatation may be completed manually and delivery accomplished by forceps or version.

If the cervex is not effaced, is hard and tightly closed, particularly in a primipara, cesarean section is the method of choice with a promise of a live baby and mother. The low cervical operation is to be preferred and done under local rather than general anesthesia.

This treatment in my hands has given satisfactory results. and is the general plan followed in Roper Hospital, where the results in all cases treated from January, 1924 to July, 1928 show mortality of 21.83 percent. for mothers and 32.68 percent. for babies.

DISCUSSION

Dr. Lester A. Wilson, Charleston: I wish to thank Dr. DeSaussure for presenting this paper. It is a subject of vital importance to us, as there are about three hundred maternal deaths in South Carolina each year resulting from the toxemias of pregnancy.

In the treatment of toxemia one should always try to prevent it from developing,—by seeing that patients are free from focal infection,—that the kidneys and blood pressure are normal and remain so throughout pregnancy, and that there is no rapid gain in weight.

If there is evidence of thyroid involvement, I believe iodine administration is certainly beneficial. Recently, I had three cases who previously had eclampsia,—one of whom had lost four pregnancies from this condition. These cases with iodine administration went on to full time without becoming toxic.

Unfortunately, the Van den Berg Test for

determining the liver function is not generally understood. I hope in the future that this organ could be satisfactorily tested for its capacity.

In the pre-eclamptic toxemia, labor should be induced when symptoms indicate that such serious complications as convulsions, premature separation of the placenta or myocardial degeneration, nephritis or hepatic degeneration are threatening.

In the treatment of eclampsia one should bear in mind the causes of death and guide his patient away from these dangers. The greatest cause of death in eclampsia is shock. Therefore, the patient should be delivered by the method which would add as little shock to her condition as possible.

To control convulsions morphine and magnesium sulphate are the drugs of choice. The patient should be kept in a darkened room and absolutely quiet.

Elimination through the kidneys and skin may be increased by injection of warm glucose or sodium bicarbonate solution intravenously. The best purgatives are calomel, castor oil and enemeta.

When one has myocardial degeneration to deal with it is difficult to decide when to start stimulation and when to deplete. Digifoline hypodermically is probably the best stimulant. Bleeding is advisable if the blood pressure remains high. I think myocardial degeneration is the most serious complication that one may encounter.

Eclamptic patients are very susceptible to infection, and scrupulous care should be exercised in its prevention. Such complications as hepatic or cerebral apoplexy are almost hopeless regardless of what we may do for them.

Dr. R. E. Seibels, Columbia: The one thing, it seems to me, in the treatment (or rather in the prevention) of eclampsia is the feeding of carbohydrates. I notice Dr. deSaussure suggests a ten per cent solution of glucose. Our experience has been that the intravenous use of twenty per cent solution of glucose in distilled water is less often followed by the reaction of chills and fever than the lower solution. Glucose given intravenously, it seems to us, is a very valuable agent in eclampsia. Several cases in coma, to which we have given it, have come out in four or five hours. In addition, we use from 300 to 500 cc. of physiological salt solution given by hypodermoclysis. The patient edematous; and that edematous fluid, as Dr. deSaussure brought out, is highly toxic. Therefore the injection of the salt solution I think is of great aid.

Delivery should be attempted, I think, by whatever means the operator is most familiar with and in which he is most skilful. As has been said, I think we should do that thing to the patient which leaves her with the minimum of trauma, whether it be version or cesarean section or some other method.

There is a type of eclamptic patient who should not be delivered, and that is the patient with cardiac failure. She should be left alone, just as any cardiac case is left alone, until that heart is compensated. That patient should be kept quiet and given digitalis but should not be delivered artificially.

In the hyperemesis cases, they can be practically one hundred per cent. cured by the use of glucose intravenously, rest, and being told they are not going to be aborted. In my experience, ninety per cent. of the cases of so-called toxic vomiting do not wish to have a baby. If we can assure those patients they are going to have glucose intravenously and salt solution through the skin every eight hours until they stop vomiting, generally they stop after the second treatment.

Dr. John F. Townsend, Charleston: In some instances the onset of convulsions in a case of toxemia of pregnancy comes on without very many other symptoms except that of high blood pressure. The laboratory findings are fairly negative, so high blood pressure is looked upon as a symptom that needs careful watching. In two cases seen recently the eye-ground examination showed, in one case, slight symptoms of toxemia of pregnancy, and the suggestion was that it should be watched. The other case, which, by the way, had the higher blood pressure, showed an essential arteriosclerosis, which accounted for her high blood pressure and made us disregard the high blood pressure as a basis of the symptoms; and the case was discharged from observation until near the time of delivery, when she was brought in and delivered. The point is that the arteriosclerosis may sometimes be on the basis of the high blood pressure, rather than the toxemia of pregnancy. Therefore, cases of high blood pressure due to arteriosclerosis do not need watching, as do cases of high blood pressure due to the toxemia of pregnancy. In the case of high blood pressure due to the toxemia of pregnancy the blood pressure will go down after delivery. We frequently find that it goes down before the patient leaves the hospital, but not necessarily so. But the blood pressure does not go down after delivery in the cases whose high blood pressure is due to the arteriosclerosis. At my examination of the ocular fundus I also state whether the blood pressure should or should not go down after delivery.

Dr. deSaussure, closing the discussion: When you start discussing the toxemia of pregnancy

you start on a discussion that is endless.

With reference to what Dr. Wilson said about the toxemia of pregnancy, I believe the pathology is primarily in the liver and not in the kidney. I believe the changes in the kidney are always secondary to whatever the causative factor in the liver may be.

I cannot agree with Dr. Seibels that the routine administration of a large quantity of glucose intravenously is a good thing, because in those cases that are markedly edematous it is likely to produce more edema, especially edema of the lung. I do not believe any good is accomplished by the administration of glucose unless there is acidosis.

Blood pressure, of course, is one of the best indications of what is going on. I thoroughly agree that in a patient with high blood pressure labor should not be induced until that blood pressure is brought down somewhat. In other words, treat your patient with eclampsia as you would a patient in shock, and do not attempt to deliver the patient until that pressure is brought down.

A PUBLICITY BUREAU FOR OUR STATE HEALTH DEPARTMENT

By G. T. Tyler, Jr., M. D., Greenville, S. C. Chairman Committee Public Health and Instruction S. C. Medical Association

The State Health Department is an educational institution. Not only must it undertake sanitary and curative measures; but it must also employ means for preventing disease. In fact, within the last decade, prevention has been the slogan of all health boards. Educating the public in health-conservation is the duty of the departments of health. It is the surest means of disease prevention, and by far the most satisfactory method of bringing to the lay mind the necessity of following health laws.

A publicity bureau in the State Health Department can educate the citizens of the state. By means of health literature sent at regular intervals; by use of the press, daily, weekly, church, and secular; by arranging courses of instruction in the normal schools and in colleges where teachers can be given health-knowledge; by charts, illustrated lectures before schools, clubs, and churches; by moving pictures; by radio, the knowledge of health can be disseminated from a reliable source, in an authoritative manner. Such information is de-

pendable. No physician, nor group of physicians is benefitted thereby: it comes in the name of the State to all its citizens.

It was recommended at the last meeting of our State Medical Association that each county society devote a meeting to this subject, inviting its representatives to the Legislature to meet with them. The need and value of a publicity bureau in the State Health Department presented to the legislators in each county will go far toward influencing legislation favorable to the idea. When the funds needed are asked for, the legislators will be familiar with the subject.

Greenville county had such a meeting in September. Dr. Hayne, of our Health Board, and Dr. Laughinghouse, of the N. C. Board were with us, as well as some of our legislators. The need of a publicity bureau was ably presented. If similar meetings can be held by other county societies, there will be little difficulty in convincing the Legislature that appropriation for this purpose is money well spent.

In North Carolina, the value of the bureau has been demonstrated. Every expectant mother is sent a letter each month of her pregnancy telling her how to care for herself, and urging close cooperation with her physician. The mother of every new-born baby is sent letters and circulars, instructing her in the care of her child during the first, second, and later years. A monthly bulletin is sent to every citizen who will take the trouble to write for it.

Besides this, charts and large posters are supplied to schools, showing how disease is conveyed, and how prevented. Papers on sanitation are also supplied. This bureau is a healtheducation department. Dr. Laughinghouse writes: "We have every reason to believe that it has taught the people the necessity for vaccination. It has been of incalculable help in the passing and enforcing of sanitary laws. It has been our right arm in teaching the necessity for screening houses, and keeping the premises policed; and publicity by our State Board of Health, and by our educational machine has done incalculable good in instructing school children.

"For the past three years we have been bending our efforts toward impressing mothers and fathers and doctors of the necessity of finding and correcting the physical defects in pre-school children. We feel that our publicity activities have done much in this regard.

"Lastly the press of this State has been particularly kind to us, until the people look for such information as would naturally come from a health department. The people accept it. In fact they are hungry for it; and our only complaint is that we haven't more money to put into this most necessary undertaking."

The results obtained by the N. C. Board's publicity bureau lead us to expect that we can accomplish like results—PROVIDED OUR MEDICAL SOCIETIES WORK FOR THE BUREAU.

DR. THOS. BROCKMAN

ANNOUNCING THE REMOVAL OF OFFICES TO COLONIAL APARTMENTS, NUMBER 25 EMMA STREET, GREER, S. C. THE ESTABLISHMENT OF A MORE COMPLETE RECTAL CLINIC, WITH X-RAY AND CLINICAL LABORATORIES. BETTER PREPARED TO EXAMINE, ACCOMMODATE AND TREAT CASES WITH COLON AND RECTAL DISEASES. RECOVERY BEDS FOR AMBULANT PATIENTS. SURGICAL CASES HOSPITALIZED AT THE CHICK SPRINGS SANITARIUM.

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., CHARLESTON, S. C.

CARE OF TONSILLECTOMY PATIENT

By Dr. J. B. H. Waring, Eye, Ear, Nose and Throat Monthly, September, 1929

The treatment of a post tonsillectomy case is always one of great importance. Dr. Waring advises the use of calcium routinely as a pre-operative preparation. (Some people may agree but some have found that it has not proved very satisfactory). He also advises in cases with markedly sclerosed vessels the giving of a pre-operative dose of fibrogen.

He uses the suction tonsillectomy method.

The taking of coagulation time has been dispensed with as of uncertain value. (I think it a good plan but I have found cases with prolonged coagulation at one time and with a perfectly normal coagulation ten days later). Alkalinization with milk of magnesia or some other suitable alkali seems of definite value prior to operation, especially in those markedly toxic. (Some find it of definite value immediately post operative).

Operation in the morning is preferred; children are given water or bouillon in lieu of breakfast. Adults are encouraged to eat their usual breakfast, for local anesthesia operation.

He uses Ether by the drop method with an automatic drop device with plenty of air admixed.

At completion of operation, the patient is returned to bed, placed on right side and mouth kept on pillow somewhat downward so that any blood or saliva drools from the mouth by gravity. There is plenty of mucus and saliva as a rule, but little blood except from adenoid operation. Nothing is given by mouth for two or three hours; then sips of cool water or cracked ice; gradually increased to full amount desired. Cold milk; ice cream; cracked ice is diet for first 24 hours and a shift from liquids to semi-liquids gradually made from second day on; bland and unirritating diet. Patients

are kept in bed and as quiet as possible for first 24 hours or longer, if practicable.

He gives pre-operatively in cases of local anesthetic, three grains of luminol by mouth, swabbing the throat with 5% cocain until the gagging reflex is abolished. He gives an injection of ½% Novocain; 1% Antipyrin; 1% (1-1000 Adrenalin. From 10 to 15 cc. of this solution is employed as a rule. He injects it pretty generally around the tonsils. In the Journal of the American Medical Association, Sept. 21, 1929, pg. 905, Dr. S. E. Roberts writes of a kind of cocain intoxication or tetany in intranasal operations. He advises parathyroid extract Collip 5 cc., containing 100 units subcutaneously.)

Dr. Waring advises having the patient put their head down in case of dizziness or any unpleasant feeling from the cocain.

He improves the mental attitude of the patient by showing them what is to be done and reassuring them so that they are not frightened by any of the things that may happen in the operation. That I think is an important point.

The tonsil fossa should be carefully examined post-operatively as to the presence or absence of lymphoid tissue. No suction cleansure is ever employed in a fossa after removal of the tonsil; but unless absolutely dry the fossa is lightly swabbed with a cotton swab and search made for any possible oozing spot.

He finds that the hemorrhage may be controlled by the pressure of a homostat, saying that ligature is rarely necessary. (Personally 1 prefer using a ligature in case of doubt).

No pus basins are kept by the patient and he or she is admonished not to clear the throat or try to expectorate; to simply lie in position and let saliva drool by gravity.

For pain he advises Morph. S. 1/32 in a half teaspoonful of elixir lactopepsin diluted in water, to be held in the side of the mouth. This dose every 3 or 4 hours insures a minimum of

pain and discomfort, without the narcotic effect of larger doses of morphin. Very few patients call for more than 2 or 3 doses of this medicine; in fact many never take any at all, saying their throat is more stiff than painful.

He also advises the use of powdered aspirin, gr. 1 ½ to the spoonful of alkaline Petrolagar, given every hour as needed; the oiling effect of the Petrolagar along with the pain relieving

effect of the aspirin, is very gratifying.

Cold water and cracked ice, milk and ice cream is the diet for the first 24 hours.

After that they gradually work back to a semi-liquid and then full diet as the condition of their swallowing apparatus seems to justify.

He seems to think that the Kromayer lamp has a tendency to hasten the healing process.

MINUTES

To the House of Delegates, South Carolina Medical Association.

From the Committee on Public Policy and Legislation.

Gentlemen:

No bills were introduced during the last session of the Legislature that were related to Chiropractors. They are practicing full sway, unmolested, unlicensed and illegally in our State. The city of Columbia, and I suppose other cities, charge them a revenue license to practice in their municipalities. The chiropractors of Columbia boldly pay their license and sign an affidavit that they do not make more than \$3000.00 a year and they are charged the minimum fee which is \$25.00. I do not blame the cities because they need the money,—it is up to the State to enforce the State laws and see that practitioners are properly licensed.

I will mention hurriedly some bills which were introduced which may be of interest to organized medicine in South Carolina.

- 1. Three new County Health Units were provided for this year which makes a total of 26 counties in our State which have County Health Units.
- 2. A bill was introduced to rearrange the examining Board for Opticians and Optometrists. The Bill passed and the law now provides for an examining Board of three Optometrists, one Physician, and one Oculist who is a licensed M. D.
- 3. Some effort was made to legalize licensed druggists to handle wines and liquors for medicinal use. This bill did not pass.
- 4. Another bill required textile manufacturers to install sewerage systems in their mill villages within the next two years. This bill passed and is now a law.
- 5. A bill which declared it unlawful for institutions hospital, etc., caring for sick or injured persons for pay to use pupil nurses on special

private duty in pay cases. This bill failed to pass.

There were a number of other local county bills that were not of state-wide interest.

Our Secretary-Treasurer, Dr. Hines, drew it to the attention of the chairman of the Legislative Committee that our State Association was sponsoring a bill that had to do with expert medical testimony. As this bill had originated in Charleston I wrote to Dr. Cathcart who replied that the matter was being taken up with Mr. Arthur Young, President of the State Bar Association, who would prepare and have the bill introduced. The bill evidently, as far as I am able to find, was not even introduced, and I feel certain did not pass, for the Secretary of State who keeps a copy and indexes all bills informs me that he does not have the bill indexed. If anyone knows the status of the bill we would appreciate any information they can furnish on the subject. The legislative committee would have had this bill written and introduced had we not been assured that this was not necessary.

The Nurses bill will be reintroduced next year by the same authors who introduced it this year. If the House of Delegates cares to make any suggestions or recommendations it might be advisable as a guidance for the legislative committee next year.

Last year Dr. Thos. Pitts of Columbia made a suggestion to the House of Delegates that physicians be re-examined periodically to perpetuate their license to practice medicine within our State. His idea, I think, was that the law, of course, would not be retroactive, therefore, everyone practicing at the time this measure became a law would be exempt from this periodic examination. The periodic examination would occur, say at five year intervals, and the details of the examination could be worked out by a committee who would recommend the law to our legislature. In lieu of the examination a certificate of having satisfactorily at-

tended and passed certain tests at least once during the five years at the Post Graduate course in Charleston might be instituted as equivalent to one of these examinations. (Not adopted by House Delegates. Ed.)

The only new legislation that the Legislative Committee would like to recommend and have the House of Delegates endorse at this session would be to sponsor in an energetic way a law requiring a clean bill of health for marriage. We also recommend that the House of Delegates go on record as favoring venereal prophylactic packages or even prophylactic stations

for civilians as were carried out for soldiers during the war. As I see it, there are five legislative matters that should be discussed:

Nurses Bill.

Expert Medical Testimony Bill. Clean Bill of Health for Marriage. Venereal Prophylaxis Bill.

Five-Year Periodic Examinations to Relicense Physicians.

Respectfully submitted, Marion H. Wyman, M. D., Chairman, Committee on Public Policy and Legislation.

SOCIETY REPORTS

·**···**

FOURTH DISTRICT MEDICAL ASSOCIATION MEETING, CENTRAL, S. C., OCTOBER 10, 1929.

Program

Invocation—Rev. Brooks, Pastor Methodist church.

Address of Welcome—Hon. G. M. Perry, Mayor of Central.

Greetings—Dr. L. G. Clayton, Central. Response—Dr. E. A. Hines, Seneca.

Titles of Papers for Fourth District Medical Meeting

- 1. Reflex Symptoms of Various Types of Pathology Occurring in the Terminal Bowel—By Dr. Granville S. Hanes, Louisville, Ky.
- 2. A Publicity Bureau for Our State Health Department?—Dr. G. T. Tyler, Jr., Greenville, S. C.
- 3. Obesity Associated with Deficiencies of the Enterdernic Viscera—Dr. George R. Wilkinson, Greenville, S. C.
- 4. Embeded Ureteral Calculus with Report of Cases—Dr. H. M. Daniel, Anderson, S. C.
- 5. Allergic Manifestations In the Nose—Dr. T. R. Gaines, Anderson, S. C.
- 6. Diagnosis and Treatment of Chronic Cholecystitis—Dr. L. H. McCalla, Greenville, S.
- 7. A Practical Discussion of Some Nasal Sinus Problems. Slides—Dr. E. W. Carpenter, Greenville, S. C.
- 8. A Larger Outlook for Future Activities of the State Medical Society—Dr. E. A. Hines, Seneca, S. C.
- 9. The Climacteric--Dr. J. Decherd Guess, Greenville, S. C

LUNCHEON-2:00 P. M.

Officers

Dr. E. C. Doyle, President, Seneca, S. C. Dr. W. A. Strickland, Sec.-Treas., Westminster, S C.

NEWS ITEMS

The October meeting of the Spartanburg County Medical Society had as its guests Dr. L. B. Mc-Brayer, Secretary of North Carolina State Medical Association and Dr. J. T. Burrus, Ex-President of the North Carolina State Medical Association. These gentlemen came to South Carolina to talk on organized medicine.

The Greenville County Medical Society will hold a joint meeting with the Dental Society in November. Their guests will be Dr. Kenneth M. Lynch of Charleston and Dr. Sam Silverman, D. D. S., Atlanta, Georgia. The meeting will be celebrated by a banquet and the usual large number of guests will be present of surrounding counties.

The Fifth District Medical Society holds its meeting under the Presidency of Dr. W. E. Simpson at Rock Hill, October 31. The program is an unusually interesting one. Several distinguished visitors will be present.

Dr. J. H. Cutchins was elected to membership in the Pickens County Medical Society at the last meeting, September 4.

Dr. Chas. C. Harrold, Macon, Georgia, and Dr. Wm. Shearouse, Savannah, Georgia, have been appointed Fraternal Delegates by the Georgia State Medical Association, to attend the next annual session of the South Carolina Medical Association to be held at Florence in May, 1930.

DRUG ADDICTS

Drug and Alcoholic patients are humanely and successfully treated in Glenwood Park Sanitarium, Greensboro,, N. C.; reprints of articles mailed upon request. Address

W. C. ASHWORTH, M. D., Owner Greensboro, N. C.

SITUATIONS WANTED

WANTED: Salaried Appointments for Class A Physician in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan. Chicago. Established 1896. Member The Chicago Association of Commerce.





IN the South, OF the South, FOR the South

EDICINE and SURGERY in every phase will be covered in the general and clinical sessions and the twenty sections and conjoint meetings making up the program for the Miami meeting—modern scientific medicine brought up to date. Unique and unusual entertainment and recreational features—golfing, boating, swimming, fishing, hunting, trap shooting or whatever is the favorite sport or recreation. A meeting that will EXCEL—Miami, November 19-22.

A FTER MIAMI, CUBA. Perhaps never again will there come to physicians in the South such an opportunity to see Havana and Cuba under circumstances so favorable and at so low a cost. Entertainment that will charm, in this "lovely land of Cuba," has been arranged.

A RE YOU A MEMBER of the Southern Medical Association? If not, you should be and can be if you are a member of your county and state medical societies—that is the only necessary requirement plus \$4.00 annual dues which include the Association's own Journal, the Southern Medical Journal—the equal of any, better than many. "Here 'tis again, my check for \$4.00 in payment of my dues for another year—the best investment of the year," so writes a prominent physician of North Carolina. You will EVENTUALLY make that "best investment"—why not NOW?

SOUTHERN MEDICAL ASSOCIATION Empire Building Birmingham, Alabama



The Iournal

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A. HINES, M. D., F. A. C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston. S. C.

PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. C OBSTETRICS AND GYNECOLOGY

R. E. SEIBELS, M. D., Columbia, S. C. UROLOGY

W. B. LYLES, M. D., Spartanburg, S. C. ROENTGENOLOGY

T. A. PITTS, M. D., Columbia, S. C.

PATHOLOGY AND BACTERIOLOGY

H. H. PLOWDEN, M. D., Columbia, S. C.

SURGERY

- C. B. EPPS, M. D., Sumter, S. C. EYE, EAR, NOSE AND THROAT
- J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY
- J. RICHARD ALLISON, M. D., Columbia, S. C.
 GASTRO-ENTEROLOGY AND PROCTOLOGY
- W. T. BROCKMAN, M. D., Greer, S. C.
- NERVOUS AND MENTAL DISEASES
- E. L. HORGER, M. D., State Hospital, Columbia, S. C.

MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

SOME FURTHER NEWS ABOUT THE FLORENCE MEETING, 1930

The Scientific Committee at its recent meeting decided to make the subject of Tuberculosis one of the important features of the next annual meeting. At the present time efforts are being made by the State Board of Health, by the South Carolina Tuberculosis Association and by voluntary agencies to stress the urgency of the tuberculosis situation in the State. There are probably not half enough beds available in all the hospitals combined for even the incipient cases. The campaign has been greatly activated in recent months by the Masonic Fraternity. This organization is now erecting an additional building at State Park at a cost of fifty thousand dollars. Another building was completed a year or so ago.

Every effort will be made by the Program Committee to cover all the important phases of Tuberculosis by outstanding speakers. In this connection it will be gratifying news that Dr. A. E. Parks Professor of Pediatrics at the Johns Hopkins Medical School, has accepted the invitation to speak on Tuberculosis of Children. It is probable that Dr. Park will also conduct a clinic on some Pediatric subject.

We are looking forward with the keenest pleasure also to the visit of the President Elect of the American Medical Association, Dr. William Guerry Morgan of Washington, D. C. Many other good things are happening pointing toward a record breaker from every standpoint in the metropolis of the Pee Dee.

We wish to call special attention to the one hundred per cent membership drive now going on by the Florence County Medical Society in cooperation with the Officers of the State Medical Association. Indications are that the influence of this membership campaign will extend to all the surrounding counties. It is not too much to hope that under the inspiring lead-

ership of Dr. Charles R. May of Bennettsvilla who has made increased membership one of the special features of his administration that by the time we meet at Florence every County in the State will show gains of membership. We believe that the entire organization should get behind the President in this matter. He has in season and out of season visited many sections of the State making appeals for this and other laudable enterprises of the State Association. The impression prevails, judging by reports, especially from the large and enthusiastic meetings of District Societies recently, that we are making admirable progress in all directions.

SPARTANBURG SOCIETY SETS GOOD EXAMPLE

Under the Presidency of Dr. S. O. Black, the Spartanburg County Medical Society, has during the year a good record for many enthusiastic meetings. One of these was held on the evening of October 25. To this meeting there were invited with the avowed purpose of arriving at a better understanding between the members of the medical profession and the public, mem-

bers of the City Council, the Officers of the Chamber of Commerce, civic and social leaders, Trustees of the County Hospital, and members of the Board of Health. Many medical visitors from neighboring counties were observed in the audience. The invited guests included Dr. J. T. Burrus, Ex-President of the N. C. Medical Society, Dr. L. B. McBrayer, the Secretary of the North Carolina Society, both of whom spoke along the lines of more efficient service to the public by the profession and by the hospitals. Both suggested that the County Medical Society by more effective organization held the key to much greater things in a professional way. Among the other speakers were Dr. G. T. Tyler, Jr., Chairman of the Committee on Health of the State Medical Association, who presented the claims of the proposed Department of Publicity for the State Board of Health. We feel that similar meetings should be held throughout the State at more frequent intervals. The medical profession should take into its confidence the public as well as the officials of voluntary health organizations at stated meetings held for this purpose. By so doing vicious forms of practice may be thwarted or at least greatly modified.

ORIGINAL ARTICLES

*CREEPING ERUPTION—LARVA MIGRANS

By F. K. Rhodes, M. D., Florence, S. C.

This is a skin disease said to be common in Russia and Arabia and uncommon in North America.

It was first described by Lee in 1874. One case has been reported in Manitoba, two cases in North Dakota (1913), quite a number in Florida, and along the Mexican border, also on the coast of New Jersey, and more recently several cases have been reported from the Gold Coast. It is probably very much more common in this country than one would suspect from the records. In my practice this summer I have seen six cases in and around Florence. This number is somewhat larger than I am accustomed to see although I have seen a few cases from time to time for several years.

The supposed rarety of this disease in this locality and the frequency with which I have

Creeping eruption is due to a parasite resembling the larva of a fly. It is 1 mm in length divided into 10 segments. The head end has two suckers and the tail end is bifurcated. It is considered the larva of the botfly of genus Gastrophilus. In some cases it is said to be traced to the migrating larva of hypoderma boris or hypoderma lineatum. Wandering hook worm larvae have been credited as a possible cause. The exposed part is usually the affected part. Of the six cases in my series this summer, five had their feet affected.

The characteristic feature of the disease is a burrow in the skin shown as a slightly elevated serpiginous red line 1/8 to 1/6 inch in width. The burrow reminds one of the burrow made by a ground mole.

The speed at which the larva extends the

burrow varies from a fraction of an inch to several inches in 24 hours, mostly at night.

The characteristic symptom complained of is itching, and this is worse at night due to the fact that the burrow is being extended at this time. The itching is so intense until the patient is kept awake at night.

We are sometimes enable to see the larva by pressing on the advancing end of the burrow with a piece of glass. (I have never seen it). It shows up as a dark spot. The larva has been removed by cutting down into the burrow, but it is difficult to accomplish this. Usually one larva is present but sometimes two or more. A few years ago I had two patients affected with this disease come to my office at the same time—father and baby. The father had both feet infected with a large number while the baby had so many that it would have been difficult to count them. The buttocks and the legs were covered. The itching was so intense that the scratching had produced seen it, explains why I am presenting this sores and infection. These two calculations why I am presenting this just outside of the city of Florence. I have never seen or recognized a case in the colored race.

> Of the six cases seen this summer five were children and one an adult.

> The five children had their feet infected. One also had a hand infected. The man had his infection in the axillary region. Two of the cases lived within the city limits while the other four lived outside in different directions. No two of these cases were from the same family or from within the same neighborhood. Three were males and three were females. None of the six cases came from the strictly lower classes while four came from good homes where children were well cared for.

The treatment as given by various authorities may be given as follows:

- 1. Excision of advancing end and removal of larva.
- 2. Stelwagon who reported five cases introduced Bi-Chl-Mercury (2 grs to 31 ½) by

^{*}Read before the Florence County Medical Society, Florence, S. C., October 8, 1929.

cataphoresis over the advancing end and then applied nitric acid. He was successful with this treatment but thinks the nitric acid did the work.

- 3. Chloroform applied for ten minutes several times daily from a partly filled test tube inverted over the advancing end has been recommended by some.
- 4. Hutchins injected a few drops of choloroform into the advancing end with success.
- 5. My first case seen several years ago was treated by injecting a solution of potass permanganate. One injection cured the case but caused some sloughing at point of injection.
- 6. This summer I used metaphen injected into and around the advancing end and succeeded in perfecting a cure.
- 7. The easiest and most satisfactory treatment I have used is ethyl chloride. Freezing of the advancing end for a few minutes is almost certain to give success. If the advancing end is in the sole of foot it may be necessary to wait until it reaches the side of the foot, as it seems to be more difficult to check it in these parts.

As you have seen I have told you little if anything new about this disease and the only excuse I can offer for presenting this paper is to impress upon our minds the fact that this is not only a Russian disease and an Arabian disease, but it is also an American disease, a South Carolina disease and a Florence disease.

*REFLEX SYMPTOMS OF RECTAL AND COLON DISEASES

By Wm. E. Applehaus, M. D., Louisville, Kentucky

The old proverb "Great oaks from little acorns grow," the postulates of which have been one of the corner stones in the foundation of modern philosophy applies in principle to scientific medicine just as soundly as it did to the old world logic.

The clarion cry of intelligent physicians "Find the cause and remove it" is in reality the prime reason for the recent rapid development of medical progress.

The minuteness of structure and highly

specialized physiological function of the finest of all machines (the human body) depends upon the intricate correlation of every cell. The slightest deviation of any one function has a direct and telling effect on some other activity. This effect may be so slight that it is not noticed until the accumulative effect of years disfunction begins to assert itself or it may be prompt and disastrous depending upon what type of tissue or organ it is affecting.

Ours is a great interdependent and intercorrelated body upon which every physical assault or disease insult registers a lasting impression on some structure. There is no separate, distinct or isolated function. Every one either stimulates or inhibits some other activity or prepares the soil for other activities to thrive.

Modern medicine does not seek out gross well-defined disease symptoms but is everlastingly seeking the primary cause or physiological deficiency that predisposes to the ailment and corrects this.

The theories concerning syphilis, malaria and diabetes were elaborately and multiply confusing and each rather plausible, until the exact causative factor in each was discovered.

When the cause of cancer is ultimately discovered it will more than likely be some simple process that will be easier to prevent than cure.

The remote control so to speak of one disease or disfunction upon other disorders, while in many instances not quite plausible to the lay mind, is a definite certainty.

No one function or structure is an entity in itself in so far as being unrelated or uninfluenced by other functions. Even systems depend on the other systems, bodies on other bodies, worlds on other planetary satelites.

The pendulum of medical progress is gradually swinging from the recent surge of separate isolated specialism, where each doctor treated his own narrow field as a local distinct entity in itself; to the more sound present tendency for each specialist to view his subject in the broad terms of its relation to general health.

While this principle is true in all medicine, its significance is magnified when we begin to

^{*}Read before the Fourth District Medical Association, Central, S. C., October 10, 1929.

consider the diseases of the rectum and colon in their relation to remote disorders.

The affections of these parts, which have heretofore occupied a place in the medical curriculum only relatively superior to their lowly position in the gastrointestinal tract, have recently been found to be literal "acres of diamonds" in the production of reflex and toxic symptoms that far out-balance any temporary local symptom in so far as the general well being of the patient is concerned.

In considering these structures from the standpoint of remote symptoms we must appreciate that we are dealing with two sets of nervous controls. Those structures above the anorectal zone which are supplied by the sympathetics and the anal canal which has both the sympathetic and cerehospinal innervation.

The cecum and transverse colon are both supplied by Auerbachs plexus, the splanchnics and vagus. The upper portion of the cecum, transverse colon and descending colon are supplied by nerves from the lumbar spinal cord, the fibers of which emerge from the four upper lumbar nerve roots, enter the lateral chain of the sympathetics and then go to the mesenteric ganglion from which fibers are sent to the solar plexus and also along the course of the colon.

The rectum, sigmoid and descending colon are supplied by the pelvic nerves which take their origin from the sacral cord and pass into the pelvic plexus, which is connected with the inferior mesenteric plexus through the hypogastric fibers and end in Auerbachs plexus.

If it is possible for disease of the gall bladder, appendix and kidney, acting through the vagus, to produce reflex disturbances in the colon and upper digestive tract it is not plausible to assume that there is an equally clear pathway for reflexes of the colon and lower rectal pathology to reach these self same structures through the same nerve routes.

The sympathetic system of the colon, sigmoid and rectum is very extensive and has ganglia distributed throughout the cord which send fibers to organs generally over the body and when the colon is diseased it produces many distant symptoms of nervous type. This readily explains the aphorism "neurotic" applied to persons suffering from rectal and colon

disease, who complain of everything including inorganic heart disease, indigestion, gastric hyperacidity, pains in gall bladder, aching in back, shoulders, etc.

In many cases after the removal of an appendix and the patient continues to have symptoms of appendicitis as before, we realize that not enough thought has been centered on the possibility of the large bowel being primarily the offending member. Jacobi, Cannon and Starling, quoting from White, found that stimulation of the sympathetic produces inhibition of the movement of the whole colon, with tendency to constant contraction, but conversely stimulation of the terminal nerve endings in the bowel produced a spasticity of the external lumbar muscles together with a spasticity of the muscles, particularly the circular fibers of the transverse colon. Hence the explanation of the common symptoms of lumbago in spasm of the transverse colon and the natural result in the colon of irritation to the sympathetic system.

It does not seem reasonable to attribute the rapid cessation of a spasm in a child following results from an enema, to the removal of toxic products alone. It is equally obvious that the results in certain types of headache that are instantaneously relieved by an enema or gastric lavage are far too prompt to be entirely toxic in origin.

The more recent tendency of the profession to explain various distressing reflex symptoms from disorders of the large bowel to remote structures, by the blanket and vague term "spastic colon" is an intimation that we have awakened to the realization of the importance of these ailments and may discover in our future studies that these reflex manifestations may be more to blame in producing local and constitutional ill health than any toxic symptoms which we have heretofore considered all important.

Just what effect ptosis, angulations, ulceration, diverticuli, tumor masses within the lumen and adhesions of the colon have on the sympathetic system is still confined to the field of clinical conjecture.

The bulk of our knowledge of the diseases of the colon is obtained from X-Ray studies and animal experimentation and is still in the

formative state, while our understanding of the affections of the rectum and lower arm of the sigmoid is far more advanced due to our ability to observe these structures with instruments and treat them locally.

Pathological conditions of the sigmoid such as chronic inflammations, ulceration, diverticuli, angulations or tumor masses are often overlooked in a general examination because the pain or soreness is reflected to the left inguinal or illiac region and a positive diagnosis of tubal or ovarian disease is made from these typical symptoms. This is the type of patient who, after a long period of local gynecological treatment, finally submits to surgical measures only to continue to suffer as before.

A chronically loaded sigmoid resting on the returning ovarian vein may cause congestion of and ultimate disease of the left ovary.

We have many times observed low grade inflammatory states with marked spasticity in the sigmoid to be the cause of a chronic backache and simple dilatation with the sigmoidoscope and the application of some soothing, non-analgesic medicant relieve this condition promptly.

We recently saw a man who had suffered from a chronic backache for several years. He had been to several of our best nationally known clinics. Every type of diagnostic study was made except proctoscopic. Only once was a low digital examination made of the anal canal. Various braces had been applied and all forms of physiotherapy and massage had been employed but he obtained no relief.

A sigmoidoscopic examination revealed a rather large pedunculated adenoma above the rectosigmoidal junction. After this was removed his backache ceased promptly.

We have had many cases of dysmenorrhea for which no gynecological cause could be assigned, be completely relieved when spastic or inflammatory rectal and sigmoidal states were cleared up.

As a rule pathology in the anal canal produces subjective symptoms which greatly aid us in our diagnosis. However, various types of disease may exist in the rectum, that produces slight or no symptoms to the local parts, but whose reflex manifestation is very marked.

Twenty years ago Hanes called attention to

the close interrelation of rectal disease and urinary disorders. His observations at that time were based on cases on which he operated for rectal complaints with subsequent relief of irritable urinary disturbances. Today many urologists believe that irritable conditions of the bladder, where careful examination reveals no pathology in the genitourinary tract are reflexly due to rectal diseases.

l am sure that every surgeon has had the similar experience of having patients upon whom they had operated for ano-rectal pathology_return later and relate the cure of some genitourinary disturbance from which they had suffered for years and neither patient nor doctor associated the two ailments prior to rectal treatment.

The intimate anatomical relation in the spinal cord of the nerve centers, and close proximity of the anus, rectum and sigmoid to the genitourinary tract explains much of the joint symptomology in these structures both reflexly and by direct irritation.

Anal fissures are notorious for the production of reflex irritability of bladder and urethra, pain in the perineum, pains in the legs, and low-back pains. We have had cases where simple anal fissures caused complete retension of urine.

The bearing-down pain of hemorrhoids and polypi are frequently reflected to the uterus in the female, prostate in the male, to the back, hips and down the legs.

The removal of the coccyx for severe neuritic pains in this area is like throwing water on the ends of the flame. In nearly every instance the pain is either referred from some rectal pathology or due to a low grade periproctitis in the soft structures around the bone.

I recently reported three cases of priapism in which urologists had found no trouble in the genitourinary tract but which were relieved when deep-seated, diseased conditions of the rectal and perirectal tissues were cleared up.

There is still another class of rectal disease that is scarcely mentioned yet its effect on general health and remote disorders is proportionately more disastrous than the readily recognized gross disorders. These patients complain of no definite symptoms referable to the rectum.

Infection of the perianal and perirectal tissues with no gross complicating lesion is without a doubt the most confusing of all affections in the rectal outlet. If there is a fissure, ulcer, hemorrhoids, stricture or any tangible lesion present there is then an unmistakable reason for local and other symptoms but when patients complain of most severe unclassified symptoms and nothing can be found that may account for them it is then that we lapse into the use of such vague and meaningless expressions as nervousness, functional disturbance, etc.

Whether any of the ordinary gross lesions that are observed in the anal structures are present or not large irritable and tightly contracted anal muscles, which vehemently resist the introduction of the finger or any foreign body into the rectum, indicate local disease. If all the layers of the anal wall, the muco-cutaneous, connective tissues and the muscular layer are in an irritable and chronic state of inflammation, all the conditions for the production of many most annoying symptoms are present, either reflexly or as a focus of infection.

In some of these cases there will be an almost total destruction of the connective tissues surrounding the outlet of the bowel. The perianal skin will be redundant and discolored. (This excessive pigmentation is not a natural condition as frequently taught but indicates a lack of nutrition and a diseased condition of the underlying tissues.) The perineal floor is usually relaxed and the anal muscles sensitive. This type may produce reflex symptoms but more often is a focus of infection. In other cases the anal muscles will be tight, hypertrophied, spastic and extremely irritable; the pelvic floor is rigid and contracted, producing the so-called infundibuliform anus. The perinal and perirectal structures seem to be fibrosed and may contain deposits of fibrous tissue. This type of case usually produces reflex symptoms to the upper gastrointestinal tract and genitourinary tract in addition to the severe systemic nervousness.

Time will not permit me to cite the many cases in my own experience of chronic pains in the legs, hips and back, urinary irritability, feeling of heaviness in prostate and uterus, existing in patients who had no discernable gross anorectal lesions, but who had the above described inflammatory states of the perianal and perirectal tissues. We based our deductions on the fact that when these diseased conditions about the terminal bowel were relieved the reflex manifestations promptly ceased.

The present tendency to include complete and competent investigation of the terminal bowel in our routine general diagnostic studies, including use of the X-Ray, instruments of inspection and bacterial studies has done much to advance our knowledge of the nature of disorders of these structures, their effect on general health and the production of reflex symptoms.

Complete and thorough investigation of the terminal bowel and the prompt recognition and interpretation of the various pathological states both organic and functional, as a routine procedure in every general diagnostic study, is the keynote of this humble effort.

The onward march of scientific medical progress is inevitable.

The solution of every obscure problem and the revelation of every new truth enables our increased vision to behold newer and more vast unexplored opportunities of unravelling the unknown disease forces that beset all mankind.

The time is not far distant when we will discover that the affections of the rectum and colon, the rough stones that we have heretofore trampled under foot, are literal acres of diamonds and the fabulous enrichment to medical knowledge that will accrue from our ultimate, complete understanding of their effects on remote disorders and general health may far exceed our most lavish predictions and optimistic expectations.

*HEAD INJURIES

By Daniel L. Maguire, M. D., Charleston, S. C.

In these days of rapid transit which is exemplified particularly in the automobile, there is an ever increasing number of head injuries, and in our hospitals the admissions show a relatively large number of cerebral trauma. With advent of good roads and high powered machines which are the products of our modern civilization, we are paying the penalty with serious and oftimes fatal accidents. The traumatic surgeon is coming to the front ranks and is called on almost as frequently as is the abdominal or gynecological surgeon. The operations performed by brain surgeons stand out conspicuous and brilliant in the light of other surgical procedures.

It seems to me therefore appropos that in the face of these ever increasing fractured skulls and intra-cranial insults, we should consider our methods of diagnosis and treatment. Just as in other surgical diseases, here also have different methods of treatment. "Tot homines, tot sententiae." There are men who hold to the radical treatment and do a decompression operation for every linear fracture of the skull, while others are more conservative and not only do not operate on a linear fracture, but consider this as nature's methods of decompressing itself. Some surgeons depend on spinal or cisternal punctures for moderate intra-cranial hemorrhage, while others damn these procedures in the most violent terms.

There has been a tendency to promulgate a too voluminous and numerous classification of head injuries. Dowman for instance a few years ago divided injuries of the head into twelve classes. Dowman's classification concerned itself with the pathology present, and although most thorough and complete, it was unnecessary. It seems to me that a too elaborate division of head injuries simply confuses us. The most important classification and the one that concerns us as surgeons is the one as regards the treatment. From this standpoint all head injuries fall into three classes. First class: those that do not need operative inter-

ference. In this class should be placed all cases

When a patient is first presented to us with a head injury it requires judgment born of experience, to decide whether or not to interfere. In those borderline cases there is no symptom nor set of symptoms by which we can definitely and immediately say that the cranial cavity should be drained. A case in point was a child five years of age who was admitted into Roper Hospital with history of having been knocked down by an automobile truck. She was unconscious on her admission, pulse 76, Temp. 97'F, respiration shallow and slow. Spinal puncture showed blood in all three tubes and X-ray was negative for fracture. The child died one hour after her admission into the hospital evidently from an acute medullary compression massive intra-cranial hemorrhage. We were about to operate on this child when she suddenly died.

Another case which I might describe in this connection and one which I would not operate today was a colored child six years of age who was admitted into Roper Hospital in an unconscious state. Pulse 56, respiration shallow, pupils immobile. Blood in spinal fluid and X-ray positive for fracture of parietal bone. Just before operation the pulse rose to 130 and the breathing became more shallow. The child died on the operating table. This was a patient who should have been placed in class two (2) and not operated because no operative procedure could have saved her.

To my mind the most important procedure

of concussion, linear fracture, and contusion of the skull. Second class: those serious and eventually fatal injuries which would not be benefited by surgery and hence where surgery is contra-indicated. In this second class are included all those extensively depressed fractures of the skull and massive intra-cranial hemorrhages, contusion of the brain substance. and marked medullary edema. These cases are doomed to death in spite of any treatment and live only a short time after the accident. Third class: are those injuries not included in the above two classes where operation will benefit the patient. In this third class are included depressed fractures of the vault, subdural hemorrhage, intra-cranial hemorrhage with moderate medullary edema.

^{*}Read before the South Carolina Medical Association, Charleston, S. C., May, 8, 1929.

in the treatment of head injuries is to observe the patient for a certain period of time after admission into the hospital. During this period the varying symptomatology can be watched as well as a general physical and neurological examination, a record of pulse and respiration every 20 minutes, frequent temperature observation, X-ray of skull, spinal puncture and eye-ground examination. After the observation period then the patient can be classified as above outlined and decision made as to whether an operation is indicated or not.

In an analysis of 100 cases of head injuires which have been treated by me, there were 65 cases of either fractured skull or intracranial hemorrhage and 35 cases of concussion. The cases of concussion were severe enough to remain in the ward from two to seven days before discharge. They all of course recovered without any treatment except rest in bed.

Maclaire in a recent article in the Annals of Surgery states that "concussion is a condition which we freely discuss, but concerning which we know very little pathologically. Patients do not die in this state and to produce a duplication of this condition experimentally with any degree of satisfaction is very difficult. We content ourselves by employing the loose but descriptive phrase "Shaking up the brain."

If we are willing to admit that concussion is a commotion of the brain, then the experimental findings of Sven Ingvor of Sweden may aid us in better understanding what very likely happens in these brains. The author centrifuged the heads of mice at the speed of 3000 revolutions a minute, and he was able to demonstrate some surprising results. He was able to show after centrifugation, 1st that the nucleolus of the ganglion cell was easily moved within that cell and was always thrown to the distal end of the nucleus. 2nd that there was an accumulation of the chromatophil substances at the distal end of the cell. 3rd that the canicular apparatus is squeezed out of its position. 4th that the whole set of the neurofibrils loosens as a unit from the cell membrane and when centrifugation has been sufficiently strong, occupies the center of the cell and encloses the nucleus.

In view of the findings of Ingvor we needs must feel that although concussion is not a demonstrable pathological entity in the human, it produces intracellular changes of some degree which is sufficient to cause usually a temporary alteration of some form in the life mechanism of the nerve cell.

"The treatment of concussion of the brain is entirely expectant with the patient in bed and probably an ice bag to head. They should be kept under observation but not necessarily in bed for about three or four weeks for during this time symptoms of headache, dizziness, weakness, insomnia, the various phobias and loss of self control may persist. Psychotherapy with mild sedatives and possibly a legal adjustment of the accident usually returns the individual to normal health."

As regards age of our patients, there were 32 children under fourteen years of age—28 children under ten years of age—six children under ten years of age died. The ages of the adult patients (68 in number) ranged from fourteen to fifty-six years of age. Fourteen adult cases died. Eight operated and six unoperated.

Sex and Race—There were in our series 74 males and 26 females—55 Negroes and 45 Whites. There is however little of significance here as regards sex or race as such but the most potent factor is the severity of the injury.

Agent producing injury—50 of the 100 cases of head injuries in our series were caused by automobile and out of the 20 deaths, 10 were due to the automobile. This of course shows us the importance of the automobile in the production of cranial trauma, as well as the seriousness of the injury so sustained.

State of consciousness—There has been a great deal written by the older surgeons as regards the consciousness of the patients with reference to the prognosis and treatment. In a great measure I believe this to be true today. A case which remains unconscious or lapses into a state of deeper coma even with a pulse of fair volume and frequency, offers a very grave prognosis. And the prognosis is extremely grave when coma deepens together with an ever increasing pulse rate. Of our patients (100) 47 were admitted unconscious or semiconscious. Of the 20 patients that died all were admitted in an unconscious condition.

Temperature—37 patients in our series had

a subnormal temperature on admission which does not carry any significance. It is true that -patients that have been seriously and perhaps fatally injured will enter the hospital with a subnormal temperature, but this sign is of rather minor consequence as regards other symptoms. All of our patients who died had subnormal temperature. Willensky who quoted by B. N. Carter in his article on fractures of the skull in the Annals of Surgery of February, 1926, has called attention to the prevalence of fever in skull fractures and attempted to explain it in one of three ways. 1st-Upset of the heat center. 2nd-Meningitis. 3rd—Tears in the Pia and the escape of cerebro spinal fluid through these which in the presence of a bacteremia gives temporary mild meningitis. Temperature in our cases however, has not been a prominent symptom and has been overshadowed by others more certain.

Pulse—Taken in conjunction with the consciousness or unconsciousness of the patient, I believe the pulse is most valuable in helping us to diagnose the condition of the patient, and hence indicating the need for interference. The pulse should be counted every 20 minutes and carefully noted. Frequently we will find that the pulse will vary greatly both in volume and rate from one minute to the next. A pulse which will count 40 one minute will run 90 the next minute. And this of course portends a serious outcome unless some form of operation is performed. Likewise a pulse under 50 or over 120 beats per minute means serious intracranial pressure. A patient with pulse 120 or over with deepening coma spells a fatality in spite of any interference. A slowly dropping pulse means a constantly increasing intracranial pressure, and this means interference if the patient is to be saved. The pulse in our series ranged from 48 to 160 in frequency. Both of these cases resulted fatally. On admission the pulse is significant only if it be very slow or very fast. A pulse rate under 50 or over 120 means we have a seriously injured patient. A pulse between these two extremes conveys little of information for us until we have watched it for a certain period of time. It is what happens to the pulse later that is of significance.

Blood pressure—We do not feel that the change in the blood pressure readings are con-

sistent enough to justify us in stating that they offer us any information in regards to the condition of the patient. Theoretically with the increase of intra-cranial pressure, there should be an increase of the blood pressure. Practically however, in about 25% of our cases in which the blood pressure was taken, we did not find this to be the case.

Respiration-Respiratory rate under twelve per minute are seriously ill patients and patients showing the Cheyne Stokes respiration almost all die. Operation is contra-indicated in patients who show the Cheyne Stokes respiration as well as a peculiar sighing respiration which can be easily detected if we look for it.

Bleeding—Number of patients bleeding from the nose or ear were 18, and nine of these cases died. Bleeding from the ear or nose means extensive and serious damage to the base of the skull and renders the prognosis much graver in these cases. Emphasis should be laid down here on the care of the wounds of the ear and nose because of the possibility of the later development of meningitis. Strict asepsis in the cleansing of a bleeding ear or nose should be meticulously maintained or better still an Otologist should be in consultation with us on the case.

Fundus Examination—The general opinion as regards the eye-ground I believe, is uncertain and some men are skeptical of its value. They believe that papilledema will show itself too late to be of any information. In the early stages (or during what I have called the observation period) it is doubtful if a choked disk will become manifest. In our series of cases, examination of fundus was done in 36 cases. Sixteen negative and 20 postive. Not all of these examinations however, were performed in the early stages, and not all were hundred per cent correct. We found for instance that with a negative report from the Ophthalmologist, the patient would at time of operation, show an intra-cranial hemorrhage, and vice-versa. Of course we would not be guided by the statement of the Ophthalmologist alone, but in our judgment the fundus examination is only another aid in helping us to correlate our findings in regard to making a proper diagnosis and instituting proper treatment.

Spinal Puncture—In our series there were 66 spinal punctures performed and 46 of these were done during the observation period. Of these 46 punctures, 31 contained blood and escaped under pressure. Thirty-five were clear. Of the 31 cases containing blood, 10 died. By some surgeons spinal punctures are used not only diagnostically, but therapeutically. This procedure is highly praised by some and con-The objections urged demned by others. against its use are: 1st Liability of Medulla dropping into Foramen Magnum and causing sudden death. 2nd Danger of infection. 3rd Unreliable. Sachs for instance vigorously opposes spinal puncture and states that men deliberately conceal their fatalities. However, in our series we have used spinal punctures as a routine and have had no untoward effect from its employment.

X-ray Examination—There were 58 X-ray examinations done. Thirty positive for fracture of the vault, 10 positive for both vault and basal fractures, and 28 negative. coincides with the general opinion as regards the proportions of basal fractures. That is that two thirds of fractures of the vault also communicate with the base of the skull. The fractures of the vault offers the best prognosis, the depressed fracture being best treated by an immediate operation and elevation of the fragments, the simple linear fractures being allowed to remain unoperated. Except for depressed fractures of the vault, the presence of a fracture should not be a signal for decompression operation. The fracture per se means nothing and needs no treatment provided there been no intracranial insults. Heretofore too much emphasis has been laid on the condition of fractured skull and unfortunately juries have awarded huge amounts of money on the mere X-ray demonstration of a fracture of the skull when as a matter of fact the real issue has been overlooked namely-sequelae and complications.

Paralysis and Twitchings—A definite continued paralysis or twitching of an extremity is an indication of an immediate operation, but does not occur as frequently as we would suspect. In our series, 9 cases presented this symptom and 4 cases died.

Dehydrating solutions—The use of Sodium

Chloride and Magnesium Sulphate solutions are being used quite generally today as dehydrating agents in treatment of moderate cerebral edema and severe concussion of the brain. Dowman is most enthusiastic in the use of Magnesium Sulphate and uses at times Sodium Chloride in an intravenous solution of 15% to 30%. Magnesium Sulphate is perhaps the best of all dehydrating agents because it is absolutely free from all danger. It is given in 50% solution (6 oz.) as rectal enema every 6 hours. In our series of cases we have employed Magnesium Sulphate solution guite often and there is no doubt that it exerts a beneficial influence on the patient in the reduction of a moderate cerebral edema.

Operations—In our series of 100 patients there were 40 operations and on 5 patients we performed a double decompression, 4 of whom recovered. The second decompression operation being performed in these cases from 24 to 72 hours after first operation. Of the 40 operations 14 died. An operative mortality of 33%. However, in the beginning of our series we operated patients whom we would not operate today. At least 3.of our cases upon whom we performed a decompression operation would have died in spite of any operative procedure. "Ever since operations for fractured skulls have been devised and they are surely ancient operations (trephine) the profession has been divided as regards the value. There seems to have been three groups. The first group advocating operation in every case of fractured skull. The second group decrying operation, and the third group operating in selected cases.

"Each of these groups has been the field. At the present time there is certainly a tendency towards conservatism. Operations being performed, I believe in the minority of cases, after the patient has been under careful observation for a certain period of time, and after other measures for the relief of intracranial pressure (lumbar puncture, dehydrating solutions, etc.,) have failed."—MacLaire.

Mortality—Of the total number of head injuries treated (100) 20 patients died, which represents a total mortality of 20%. Of the 20 patients who died, 6 of this number died within a few hours of admission into the hospital and without operation. Six patients then

were admitted moribund. If we should deduct these six cases, there would be a total number of 14 deaths out of 100 cases. A mortality of 14%.

Summary in Brief—The treatment of head injuries resolves itself into 1st—No treatment for concussion except rest in bed and ice bag to head. 2nd—Cases of depressed fracture, paralysis or localized convulsions and active subdural hemorrhage (showing itself by unconsciousness at time of injury, then full consciousness and lapsing into unconsciousness again) should have an immediate operation performed. ard—Institution of a certain period of observation in doubtful or borderline cases, during which the pulse, respiration, temperature, spinal puncture, eveground examination and X-ray can be done and the changing train of symptoms and signs can be carefully studied and correlated. 4th—The two most important symptoms to my mind to watch are the pulse and condition of consciousness and unconsciousness. If the patient remains unconsciousness or semi-conscious with a slow pulse, or a constantly slowing pulse, the indication for decompression is clear. If on the other hand, returning consciousness is noted, even with a slow pulse, watchful observation may be continued.

Bibliography

Carter, B. N.—"Diagnosis and Treatment of Fractures of Skull As Developed in the Cincinnati General Hospital." Annals of Surgery February, 1926.

Dowman, C. A.—"Management of Head Injuries."—Journal of A. M. A., Volume LXX1X. Maclaire, A. S.—"Acute Traumatic Craniocerebral Injuries." Annals of Surgery, June, 1026.

DISCUSSION

Dr. Olin B. Chamberlain, Charleston: In the first place, I want to commend Dr. Maguire on the preparation of such a paper. I think we all agree, in listening to medical articles, that it is this type of paper which does the most good. When a surgeon has the opportunity to observe carefully a large series of cases he has a chance to pass through the period of uncertainty as to his own therapeutic measures; and then to stabilize himself and to come to certain definite conclusions about himself and his patients. It is therefore of considerable value to the rest of

us to have those conclusions presented clearly and concisely.

Dr. Maguire's interest has been centered largely upon the question of acute cases as they present themselves in the ward. You notice that he sounds always a note of conservatism, watching the patient, finding out which symptoms are of most importance and keeping in touch with those. One point which he brought out I think can not be accentuated too much, and that is the comparative unimportance of the presence or absence of linear fractures. The knowledge of the presence of linear fractures is of comparatively little value to us. It is not the fracture we are going to operate for; nature can heal it much better than the surgeon; but the question of first importance is whether there is compression of the intracranial contents. Very often the presence of the fracture is a healing factor, relieving intracranial pressure.

Very often we see a case rushed to the hospital, the x-ray man comes on an emergency call, the patient is placed under the x-ray, and after a while the x-ray man comes out of his dark room and says, "No fracture," and everyone breathes a sigh of relief. But these linear fractures are really of no importance.

Another point touched on by Dr. Maguire is the amount of compression and the sequelae in these less grossly injured cases. Concussion as a sequela has passed through various aspects of medical thought. A few years ago concussion was placed as a non-pathological entity-that since we could not demonstrate gross pathological changes therefore there had been no brain injury. There has been lately, I am sure, a quite different point of view about it. There can be brain injury and is, very often, as we have seen demonstrated by ordinary observation, and Dr. Maguire has referred to the experiment of centrifugalizing mouse brains, which showed changes in the tissues. The concept, I think, today is that in a great many cases of concussion (even, I say, where there can not be demonstrated pathological changes) we are dealing with a subpathological encephalitis, if I may use such a term. That is a point of more than academic interest; it is a point of considerable importance in determining the life history of the patient afterwards. When a man has received a head injury from which he has only transient unconsciousness or transient drowsiness and comes to his doctor or lawyer a few weeks later complaining of headache, dizziness, and all that chain of symptoms, are we going to call it a compensation neurosis case or are we going to call it a case of traumatic encephalitis? So I think our concept of brain injury is in a state of change now, and I think every paper of the type present by Dr. Maguire is valuable.

Dr. T. E. Bowers, Charleston: You have, of course, realized that Dr. Maguire covered his subject very completely. There are some facts which we have confronting us and which we can not get around. The first of all is that any injury to the head must be considered serious, whether it is a laceration of the scalp or a depressed fracture of the skull. We are not concerned, as Dr. Chamberlain, has said, with the fracture itself but with compression and injury of the brain. So we must regard those cases which come to us as being serious; and even if they have been unconscious and have regained consciousness and say they are feeling all right, yet they must go through a period of observation before we can say they are all right. The whole thing, as Dr. Maguire says, is diagnosis; and the diagnosis in these cases rests upon the individual experience which the surgeon himself has had in the interpretation of the symptoms present. We must understand what is going on, and there are some things going on which are of prime importance.

First of all, there is hemorrhage; hemorrhage is going on. Edema of the brain is going on. If those things are not taken care of, other things will happen. We must give an outlet somehow. There are only two ways of giving this outlet, one by repeated spinal punctures and the other by a decompression operation. The pressure on the medulla is relieved as the fluid is drained off by repeated spinal puncture. We use it routinely here. Frequently these patients do not improve, do not regain consciousness; and it is then we resort to the decompression operation and the use of these dehydrating substances, chief of which is magnesium sulphate.

I think with what Dr. Maguire and Dr. Chamberlain have told you there is little else for me to say, and I can but commend them on their handling of the subject.

Dr. J. H. Taylor, Columbia: Through the last twenty years I have come to some very definite ideas about fractured skull. In the first place, any person with a skull injury who is unconscious is seriously injured, in all probability; that is, there may be serious consequences, and he must be looked after extremely carefully. I feel the most important thing from the standpoint of diagnosis is to watch the eye-grounds for swelling of the optic nerve. I think Dr. Maguire rather made light of that, but in my experience I lay emphasis on that. It does not appear for about forty-eight hours, but until that patient is operated on or is entirely out of danger once a day eye-grounds are examined by a specialist.

Next is the question of the blood pressure, which is intimately associated with that eye-ground situation. Whenever that intracranial pressure approaches the same as the general

pressure, your patient is hovering on the brink. Therefore you must watch carefully for slowing of the pulse, for slowing of the pulse means that the heart is thumping harder and harder and that the pressure is rising. That is an indication for a decompression. Those two pressures are approaching each other, and when they get equal, then goodnight. That is the experience of twenty odd years.

What is this optic sign? This is an edema. When you have an injury to the brain, not necessarily that the brain is torn, but when you shake things up in there you have an outpouring of serum from the lymphatics. You have an intracranial pressure, and the edema swells that nerve, begins to press on it; it gets engorged, and you have papillo-edema.

The next thing to watch is the x-ray picture. That simply gives you information; it does not tell you to operate. You do not have to operate on all fractures of the skull. If you have a depressed fracture, that will cause increased intracranial pressure, and that increased intracranial pressure will be shown up in the optic nerve.

The next thing to look for is fractures of the base, which do not always show up in x-ray pictures, I believe. There is a discharge of fluid from the ear and from the nose, With middle fossa fracture there is paralysis of the facial nerve. If after five or six hours, when you have had no blow over the eye, you begin to show a little discoloration above the eye, you have had a fracture there in the middle fossa. All of these things you want to watch most carefully.

Another thing; watch the eye-grounds. You cannot drain the skull by one decompression unless you go back under the base, which is a very difficult operation. A rather simple operation is Cushing's temporal operation, and that will relieve the pressure which is doing the damage. If you have a depressed fracture, raise that; you have to lift that up. If there are fragments of bone, take those fragments out.

As to this spinal puncture business, if you have a brain injury and take a small amount of fluid out, that does not tell you to operate; you have to watch the eye-grounds. If you have increased intracranical pressure you do not want to be fooling with that spinal fluid; you want to go in at the side here and do something right away—that is my opinion.

Dr. Maguire, closing the discussion: I have nothing more to say, except to thank the gentlemen who took part in the discussion.

It seems to me that although Dr. Taylor has talked very vehemently, I think we have the same opinion about these injuries. My idea of injured heads is that the case ought not to be immediately operated. If you ask me how long operation should be postponed, I could not tell

you; it may be a matter of an hour, perhaps, or six or eight hours, or twenty-four or forty-eight hours. During that period of time I think the changing symptoms ought to be watched—the eye-grounds, with the appearance of papil-lo-edema; the blood pressure; and, more particularly, the slowing pulse and consciousness or unconsciousness of that patient. I believe if the patient is becoming more drowsy, with constant-

ly slowing pulse, I think that is an indication that we ought to do a decompression operation.

Another thing I did not mention in my paper which I am sure we do not do often enough is a double decompression. Of the five cases on whom I did a double decompression, four lived. I think if I had not done a second decompression those four would certainly have died.

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., CHARLESTON, S. C.

OPTIC NERVE ATROPHY FROM REMOTE CAUSES, DR. H. V. WURDEMANN

By J. F. Townsend, M.D., F.A.C.S., Charleston, S. C.

In cases of blindness due to optic nerve lesion we perhaps too often expect to see opthalmoscopically the symptoms of optic atrophy but we should realize that the optic nerve is not of continuous fibres but of three sets of fibres, as follows:

- 1 The retinal elements, the optic disk, the optic nerve to the chiasm.
- 2. The chiasm and optic nerve, the optic nerve tract and probably the thalamus.
- 3. From the optic radiations to the cuneus and cortical visual centers.

Therefore, an entire loss of vision might occur from such disease or injury located centrally, without optic nerve atrophy being apparent at the optic disk.

Optic Nerve Atrophy is a term usually applied to the condition of the disk when the optic nerve is degenerated. There are three types—
(1) Distal. (2) Medial. (3) Central.

These have been described as "ascending" when arising from conditions in the eye or orbit or "descending" when arising from implication of the optic nerve tracts and centers. They are also "primary," following a neuritis apparent at the disk and "secondary," in which optic atrophy occurs without previous evidence of local disease, but associated with general disease, usually of the central nervous system or with no discoverable cause. This terminology

is different from that often used but he explains what he means.

We are getting closer at our cause now for 15 years ago according to James Moores Ball, Vol. 1, Amer. Cyclopaedia of Opthalmology, states that "in probably 60% of the cases there is not a describable cause." "No cause in 117 cases was found by Derby in 71." I think that one can do better now and raise the percentage to at least 90% by approved disgnostic causes.

The pathologic changes depend upon the etiologic factor.

In primary atrophy there is a withering of the retinal ganglion cells.

In the post-neuritic type there is, 1st. an increase of connective tissue in the nerve head and in the nerve stalk. 2nd. the nerve canals disappear with loss of the nervous elements. 3rd. the coats of the vessels are thickened (a) the blood stream becomes smaller and (b) the vessels do not extend to the peripheral retina. 4th. the smaller vessels cannot be seen upon the nerve, which may, 5th. not become cupped, and 6th. the lamina cribrosa is not visible. The optic nerve becomes a cord of whitened elastic tissue.

In optic nerve atrophy following a real neuritis and in choked disk, the nerve takes on a grayish color with irregular and blurred edge.

In tabes and multiple sclerosis the (a) nerve fibers lose the medullary coverings and (b) are changed into fine fibrillae, and (c) fatty granular cells are found between them. The same may be said of those cases due to toxemias, as alcohol, tobacco, quinine, arsenic and those from some general disease as attended by tox-

The retro-bulbar causes of neuritis results in a degree of atrophy, depending upon the cause and the extent of the process. The neurones are immediately affected by poisons, as by wood alcohol and its congeners, which poison the nerve elements, causing a low degree of inflamation, only seen in the nerve head by slight hyperemia, followed within a few days by blanching of the disk and pronounced atrophy with blindness.

The effects of such poisons, as arsenic, quinine, tobacco, is usually not so massive but is continuous and cumulative so that the blindness is more gradual. These first affect the retinal elements and then cause changes in the nerve tracts.

Chronic corporeal infections, as pus about the teeth, tonsils, sinuses, gall bladder and appendix, and intestinal toxemias are even more slow in action and are subject to interludes with replacement of some of the nerve elements, with fungacious improvements of vision. (In about 1907 I saw a visual disturbance due to the teeth that became better and worse and finally cleared on removal of the teeth. It recurred about 1924 from teeth and again cleared on their removal. Conforming Rosenow's theory of selective action of bacteria).

Traumatism of the optic nerve within the orbit by foreign bodies, wounds, fractures of the optic foramen, pressure upon the nerve within the orbit from hemorrhages about or in the sheath, all come under the head of direct injuries and do not show on the nerve head as an inflammatory process but do whiten the disk and cut off the circulation of the main vessels.

(We see cases of this frequently in clinics or hospital service, blindness coming on suddenly after some head injury and atrophy appearing later.)

Congenital anamolies are due to some systemic cause as (a) syphilis, (b) tuberculosis, (c) injuries at birth, the lesion being located behind the globe, being at first a retrobulbar neuritis. (d) edemat of the optic disk in cases of hydrocephalus in young children, from the pressure on the nerve and tracts from a distended third ventricle. (There is a case in pedia-

trics ward at Roper Hospital now, blind from hydrocephalus, but it is there for treatment of some other trouble.)

Blindness may follow an alcohol injection in attempts to inject the sphenopalatine ganglion, where direct injection has been made in the optic nerve (Am. Jr. Op., 1929) and parrafine injection in the external nose and the turbinal bodies and carried into the opthalmic veins, has been reported with the resultant occlusion and atrophy of the nerve. Fisher reports complete loss of vision five days after injection of olive oil and lanolin for removal of wrinkles in the face. (All showing the danger of the area drained by the opthalmic vein.)

When the injury is posterior to the thalmaus, blindness results but the effects are not usually shown on the disk.

In toxemias the mere delicate foveal fibers are usually first affected, with central scotoma and blanching of these fibers on the disk. However, the disk may appear very white with marked exhibit of the lamina cribrosa but the circulation of the blood in the central vessels remain, so that vision may be relatively good.

Degenerations beginning in the retinal elements, as from chroni-retinitis, choroiditis pigmentosa, ultimate slowly in atrophy of the nerve.

The etiology of optic nerve atrophy cannot be substantiated, neither should treatment be instituted, without a complete physical examination, which, in addition to the eyes and vision, should include a general physical examination.

The foregoing is mainly an anatomo-physiologic and pathologic discussion. It is explanatory of the reason why rather than the diagnosis and therapeusis of optic nerve atrophy.

The visual fields vary and are in no sense diagnostic. The part of the retina most sensitive to disease is the cones and the reception of color in confined to them.

Treatment—administration of glandular produces, particularly small doses of thyroid and anterior pituitary gland, arsenic, mercury, iodides and strychinine. Also suction massage and high frequency electricity.

SOCIETY REPORTS

PROCEEDINGS OF THE SPECIAL MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, WEDNESDAY, AUGUST 14, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the President, Dr. Henry J. Jackson.

Present:

Doctors: Banov; Beach; Beckman; Boette; Burn; Cannon; Cathcart; Deas; de Saussure; Finger; Jackson; McCrady; McInnes; Maguire; Martin; Mood; Palmer; Pearlstine; Plowden; Prentiss; F. R. Price; Prioleau; Ravenel; Rhame; R. B. Rhett; W. M. Rhett; Richard; Scott; W. A. Smith.

Guests: Dr. J. F. McClendon, of the University of Minnesota; Dr. David Marine, of New York; Dr. Mazyck Ravenel of the University of Missouri; Dr. William Weston, Chairman of the Research Commission of Columbia, S. C.; Dr. Lanning, of the U. S. Navy; Mr. Culp; Dr. Peoples, and Mrs. McClendon.

The President stated that the object of the Special Meeting was for the purpose of giving the members of the Society an opportunity to meet and hear some of the distinguished physicians who were visiting the South Carolina Resources Commission's laboratories at the Medical College, in charge of Dr. Roe E. Reming-The President requested Dr. Remington to introduce the guests of the evening. Remington stated that he was holding a conference of those interested in nutrition and public health, and had brought these gentlemen to Charleston to discuss the work being done in his laboratory. He stated that the laboratory was making research into the mineral elements of the foods in South Carolina, and were making studies to determine the value of these in the food products of this State, in human nutrition. He then introduced Dr. McClendon, of the University of Minnesota, Dr. David Marine, of New York, Dr. Mazyck Ravenel, of the University of Missouri, and Dr. William Weston, Chairman of the Research Commission of South Carolina.

The President then called upon each of these gentlemen, who made short addresses in which they praised the work being done in the laboratory here, and expressed the hope that these excellent beginnings would result in the establishment of the work on a permanent basis. They emphasized the far-reaching possibilities of the contribution to the science of nutrition.

Dr. Mazyck Ravenel expressed great pleasure

in returning to this Society, of which he was a former member and at one time Secretary, referring to the fact that it was the chief duty of the Secretary in his day to keep the wine cask full.

After the completion of these short addresses, the Society adjourned and an informal reception was held.

W. Atmar Smith, Secretary.

PROCEEDINGS OF THE SPECIAL MEETING OF THE MEDICAL SOCIETY OF SOUTH CAROLINA, HELD AT ROPER HOSPITAL, WEDNESDAY, SEPTEMBER 25, 1929, AT 8:30 O'CLOCK.

The meeting was called to order by the Vice President, Dr. J. Walter Burn.

Present:

Doctors: B. R. Baker; Ball; Banov; Beach; Beckman; Bowen; Buist; Burn; Cain; Cannon; Cathcart; Chamberlain; Deas; de Saussure; W. H. Frampton; Heidt; McCrady; McInnes; Maguire; Mitchell; Mood; Moore; O'Driscoll; Palmer; E. F. Parker; Prentiss; F. R. Price; Prioleau; Rhame; R. B. Rhett; W. M. Rhett; Richards; J. E. Smith; W. A. Smith; Waring; Wild; I. R. Wilson; Whaley.

Guests: Mr. F. O. Bates, of the Roper Hospital, and Dr. Young, of Columbia.

The Vice President requested the Secretary to state the object of the meeting.

The Secretary stated that the meeting had been called at the request of five members of the Society for the purpose of hearing Mr. L. L. Jamison, of the Merchants Mercantile Agency, of Washington, D. C., on the subject a credit guide. The Secretary stated that this Agency was working under the auspices of the Chamber of Commerce. The Vice President then called upon Mr. Jamison to explain the methods by which this Agency operated.

Mr. Jamison outlined at length the purpose of the Agency; he pointed out that the credit rating of nearly every individual in this city and the surrounding community could be obtained by the use of the guide which is published by this Agency. He said that about twenty-five members of this Society had already joined, and he believed that if the majority of the members would align themselves with the organization, it would be more profitable to the profession as a whole. He went into details explaining the cost to each individual, and answered

many questions put to him by members of the Society.

Dr. E. F. Parker moved that the Medical Society endorse the Credit Rating System as proposed by the Merchants Mercantile Agency and that as many members of the Society who desired to do so, join it. The motion was seconded. It was then discussed by Drs. Maguire, I. R. Wilson, Buist, Cathcart, F. R. Price, Rhame, and others. At the conclusion of the discussion, the Vice President put the motion and it was unanimously carried.

The Secretary then read a letter from Mr. Gilmore Smith, President of the Charleston Board of Trade, in which he brought out the value of the Credit Bureau operated by the Board of Trade. He said in the letter that the only charge for credit ratings and information, consisted in the annual membership fee of the Board of Trade. On motion, this letter was received as information.

There being no further business, the meeting adjourned.

W. Atmar Smith, Secretary.

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SOCIETY HELD AT LIBRARY HALL, MONDAY, OCTOBER 7, 1929.

The meeting was called to order by the President, Dr. J. G. Murray, at 8:20 P. M., with the following members present:

Drs. Bishop, Brown, Smith, Wilson, Bruce, Grimball, Sanders, Wyatt, Hearin, Bates, C. B. Earle, Pitman, Metz, Clegg, Pollitzer, Garrett, Davis, Wilkinson, Johnston, Guess, Evatt, Carpenter, Goldsmith, Brunson, Benson, Blakey, White, Watson, Murray, Richardson, Kitchen, Mauldin, J. M. Fewell, W. S. Fewell, and Barksdale.

The minutes of the last meeting were read and approved.

Reports of clinical cases were next called for. Dr. Carpenter reported a case of 7th and 9th cranial nerve paralysis due to syphilis. The paralysis was thought to be due to a basal meningitis.

Dr. Sanders reported a case of a woman in her early forties who had complained of a chronic cough, and loss of weight. She had previously received a diagnosis of pulmonary tuberculosis, and had spent three months in a hospital, after which she was unimproved. Later examination revealed an infected left antrum, ethmoid and frontals. She was improved following the opening of these sinuses.

Dr. Goldsmith reported some serious cases of serum reactions following administrations of anti-toxins; these reactions were secondary.

Miss Emily Passmore, the Red Cross Nurse requested assistance from the Society in her work.

Dr. L. O. Mauldin was then called upon, and he addressed the Society on "Therapy of Some of the Eye Medicines." He stated that many drugs were formerly used, but now the number has been reduced to about a half dozen. It was also stated that Therapeutics was one of the major subjects in the leading medical colleges.

If an eye condition is due to a systemic infection, the cause must be sought and rigidly treated.

In mentioning the mydriatics, atropin and homatropin were considered to be the most important. Dr. Mauldin stated that few people had an idiosyncrasy to atropin, but where this was encountered, morphin was the drug of choice. Atropin is very popular as an antispasmodic. Mydriasis is due to a paralysis of the third nerve ending in the eye, and perhaps to stimulation of the sympathetic. The strengths of solutions used in the eye vary from ½-2 per cent. Normal pupils may be dilated for two weeks, whereas inflamed eyes require more frequent instillations of atropin. Atropin is actually absorbed into the eye, as it has been found in the vitreous humor frequently after use. Atropin is used especially in young people to accustom them to glasses. It is contraindicated in glaucomae on account of its tendency to block up the canal of Schlemm. Eserine is the antagonist of atropin.

Homatropin has its maximum effect in 40 minutes; the puipl returns to normal in 24 hours. It is the mydriatic of choice. Pilocarpin shortens the period of mydriasis. Cocaine and adrenalin synergize atropin and homatropin.

Among the important mitics were mentioned pilocarpin and physostigmin. These are used a great deal in treating glaucoma.

The important local anaesthetics are cocaine, although it may be very toxic, butesin, anaesthesin, novocaine. There is no definite antidote for cocaine poisoning. A cocaine death is very quick. Epinerphrin is very valuable in preventing the absorption of cocaine, provided there is no idiosyncrasy to it. No anaesthetic is as deep as cocaine.

Beta-eucaine does not dilate the pupil, or irritate; holocaine is a valuable local anaesthetic.

Among the useful antiseptics were mentioned, zinc sulphate, silver nitrate for gonoccoccal infections, numoquin for pneumococcal infections, mercurio chloride, etc. These preparations are all less painful to the patient if used with physiological salt solution. Ten per cent protargol and twenty per cent argy rol are also valuable. Discussed by Dr. Sanders.

The matter of physicians' Clty License fees was then taken up. Dr. Pollitzer moved that

the report of the Committee be received as information, seconded by Dr. J. M. Fewell and carried.

The application of Dr. J. G. Pitman was then read. It was moved, seconded and carried that Dr. Pitman be elected to membership in the Society.

Dr. Bruce again brought up the question of physicians' License Fees, as he was detained from the meeting. Discussed by Dr. Hearin, Mauldin and Davis. It was moved that the License Fee be \$20.00 for the first \$2,000 gross income and \$1.00 for each additional \$1,000 gross income; seconded and carried. It was also moved that the Committee go before the Finance Committee of City Council; seconded and carried.

There being no further business, the meeting adjourned.

Irving S. Barksdale, M. D., Secretary.

YORK COUNTY MEDICAL ASSOCIATION MEETING

This being the regular time of meeting and a special annual social that was begun last year all looked forward with pleasure to the meeting arranged for in the Blue Parrott Tea Room, a social center for the York Lion Club, Rock Hill, S. C., on October 3, 1929.

The meeting was called to order by the President Dr. Dunning. All were comfortably seated around the well filled tables. The beautifully decorated and well arranged combined rooms added to the pleasantries of the occasion.

A survey of the gathering showed eight physicians who accompanied their wives. There were present seven without a helpmate or "hubbie." We were also glad to have the following members of the profession with us, Dr. Leora Perry and Dr. Holmes as visitors. There too, last but by no means least the speaker of the evening, Dr. E. E. Horger, of the Staff of the State Hospital.

A musical selection followed by Mrs. Caldwell who was accompanied at the piano by Mrs. Kennedy. After several musical selections and the fine supper prepared by the Matrons of the Lions Club we were introduced to the real treat of the evening, Dr. E. E. Horger, by his class mate, Dr. W. C. Whitesides.

Dr. Horger discussed the subject, "The Most

Prevalent Mental Disorders and Some of the Methods for Their Prevention." Dr. Horger showed the need for legislative support for the maintenance of the State Hospital and showed us that our State rates were low when compared to other States for the number of its inmates per hundred thousands. He showed that pellagra had her many inmates in the 1928 applicants. Alcoholism, and lues also making up their members not a few. These he said could be prevented if handled properly. Then he showed us by concise case histories the different forms of mental disorders. Their causes and treatments. This was done in such a clear manner that as one attending who was not a medico said, "I could just picture each case that Dr. Horger illustrated." All present enjoyed the program very much.

After the end of the program there was a call for speeches. When no one seemed to respond the Hon. J. H. Saye called upon Dr. T. N. Dulin to give us an account of his trip to Canada this summer and to tell us what he brought back, but we were not favored with the speech.

Dr. Des Portes reminded us of the approaching Fifth District Medical meeting to be held in Rock Hill, October 31, 1929, and asked that all try to come and make it a success.

W. K. McGill, M. D., Secretary-Treasurer.

"RESOLUTIONS"

Newberry, S. C., October 4, 1929.

WHEREAS; It has pleased Almighty God to remove from our midst our Friend and Brother in the Profession, a member of the Newberry County Medical Society, Walter Gustav Houseal, M. D., who has served humanity with untiring zeal for many years, and

WHEREAS; His place in this community will be hard to fill, therefore,

BE IT RESOLVED; That the members of this Society feel keenly their loss of a Friend and Brother practitioner and moan his passing; and

BE IT FURTHER RESOLVED; That a page in the book of minutes of this Society be inscribed to his memory, and that a copy of these resolutions be sent to his bereaved family.

Committee:

H. Grady Callison, M.D., E. D. Hentz, M.D.,

A. T. Neely, M.D.

BOOK REVIEWS

THE SURGICAL CLINICS OF NORTH AMERI-CA.—(Issued serially, one number every other month.) Volume 9, number 3. (New York Number—June, 1929) 299 pages with 125 illustrations. Per Clinic year (February, 1929 to December, 1929.) Paper \$12.00; Cloth, \$16.00. Philadelphia and London.

THE MEDICAL CLINICS OF NORTH AMERICA.—(Issued serially, one number every other month.) Volume 13, No. 1. (Boston Number —July, 1929) Octavo of 280 pages with 36 illustrations. Per Clinic year, July, 1929 to May, 1930. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, March, 1929.

DISEASES OF THE BLOOD—By Paul W. Clough, M. D. One of the most difficult chapters in medicine is that which has to do with what are called the diseases of the blood. The nomencilature is confusing, the etiology generally obscure and the treatment all too frequently hopeless. The literature of the subject is peculiarly inaccessible. One find articles in the larger systems and text books and numerous shorter papers are distributed throughout the periodical literature. Longer and more adequate treatises can be found in French or German but in recent times no American author has collected the information into a single volume.

Dr. Clough has performed this service for his profession. Following a brief, but ample discussion of the various types of blood cells and their origin he discusses the anemias, the leukemias and their related conditions. This is followed by an excellent chapter on blood transfusion and a section on methods of examination that contains all it is necessary for the practitioner to know.

It has been the custom in the past for physicians to divide blood diseases into two groups, anemias that should be treated with iron and conditions that are obscure and require the services of a consultant. The enormous effectiveness of liver in the treatment of pernicious anemia has popularized these conditions and it is now necessary for the practitioner to be able to make his own diagnosis if he is to maintain his standing among his colleagues.

In this book he will find all that he needs to know to recognize and treat those conditions included within this difficult group, at least when they are recognizable by ordinary means. It should prove a valuable companion to the physician in his practice: Harper and Brothers, 40 East Thirty-third Street, New York, N. Y.

MODERN PRACTICE OF PEDIATRICS—By Williams Palmer Lucas, M.D., LL.D. Professor of Pediatrics, University of Cal. Cloth, Price, 8.50. Pp. 962, with numerous illustrations and charts. New York, The MacMillan Company, 1927.

In general, medical books are more or less instructive. Occasionally one is interesting. It is however very unusual to find a work that is both. Dr. Lucas has given us a volume that is not only valuable, but entertaining. While of course it is not enclyclopedic, yet it covers all that a man in practice need know about infants and children. One should not look it over unless he is willing to spend considerable time, for it entices the reader from one subject to another so easily that the clock is unnoticed. After each chapter there is an excellent list of references for further reading. At the end of the book over 60 pages are devoted to therapeutic and diagnostic procedures. This is very practical. There is found, dose tables, laboratory procedures, clothing and diet, all concisely and clearly discussed or outlined.

There is nothing super-scientific about this book; but on the other hand the very latest discoveries and writing in regard to biologic or chemical essentials are noted. The presswork is excellent.

One can practice pediatrics without it but the pediatrician and family doctor will find it very helpful as a guide or reference work. —R. M. Pollitzer, M.D.

LOCAL IMMUNIZATION.—By Professor A. Besredka of the Pasteur Institute, Paris. Translated by Harry Plotz, M.D., of the Pasteur Institute. Cloth, price \$3.50. Pp. 181. Baltimore, Md. The Williams & Wilkins Company, 1927.

This interesting little volume by a bacteriologist of note presents an entirely new concept of immunity. While the reports of the laboratory experiments are scientific and to a slight degree technical, yet the volume is so clearly written and conclusions so important to the medical man, that it is well worth reading. This book serves as an example of the close correllation of experimental medicine and everday practice. The chapters on Dysen-

tery and Typhoid Fever are quite revolutionary. However the authors conclusions have been already put to the test in several thousand cases. The results coincided with the laboratory findings. Unless it can be proved that immunization by this modern method is not entirely satisfactory, in a short time, it will be in use everywhere.—R. M. Pollitzer, M.D.

- TULAREMIA, HISTORY, PATHOLOGY, DIAGNOSIS AND TREATMENT—By Walter M. Simpson, M.S., M.D., F.A.C.P. Director of the Diagnostic Laboratories, Miami Valley Hospital, Dayton, Ohio; Formerly Senior Instructor in Pathology, University of Michigan. Foreword by Edward Francis, Surgeon, United States Public Health Service. With 53 Text Illustrations and 2 Colored Plates. Paul B. Hoeber, Inc., New York MCMXXIX.
- MINOR SURGERY.—By Frederick B. Christopher,, Associate in Surgery at Northwestern University Medical School, Chicago. With a Foreword by Allen B. Kanavel, M.D., Professor of Surgery, Northwestern University Medical School. Octavo of 694 pages with 465 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Price \$8.00 net.
- A STUDY OF MASTURBATION and the PSY-CHOSEXUAL LIFE.—By John F. W. Meagher, M.D., F.A.C.P. Neurologist to St. Mary's Hospital, Brooklyn; Neurologist to the Mary Immaculate Hospital, Jamaica; Consulting Psychiatrist to The Kings Park State Hospital; Consulting Neurologist to The Rockaway Beach Hospital; Ex-President of the Brooklyn Neurological Society; Member of the American Psychiatric Association, New York Neurological Society, etc. Second Edition. New York, William Wood and Company MDCCCCXXIX.
- MEDICAL STATE BOARD QUESTIONS AND ANSWERS.—By R. Max Goepp, M.D., Professor of Clinical Medicine in the Graduate

School of Medicine, University of Pennsylvania. Sixth Edition, Thoroughly Revised. Octavo volume of 754 pages. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$6.00 net.

- THE MEDICAL CLINICS OF NORTH AMERICA.—(Issued serially, one number every other month.) Volume 13, No. 2. (Chicago Number, September, 1929) Octavo of 232 pages with 61 illustrations. Per Clinic year, July, 1929 to May, 1930. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.
- DISEASE OF THE CHEST AND THE PRIN-CIPLES OF PHYSICAL DIAGNOSIS.—By George W. Norris, M.D., Professor of Clinical Medicine in the University of Pennsylvania, and Henry R. M. Landis, M.D., Professor of Clinical Medicine, University of Pennsylvania; Director of the Clinical and Sociological Departments of the Henry Phipps Institute of the University of Pennsylvania, with a chapter on the Transmission of Sounds Through the Chest, by Charles M. Montgomery, M.D., and a chapter on the Electrocardiograph in Heart Disease, by Edward Krumbhaar, Ph.D., M.D. Fourth Edition, Revised. 954 pages with 478 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth \$10.00 net.
- THE SURGICAL CLINICS OF NORTH AMERICA.—(Issued serially, one number every other month.) Volume 9, number 4. (Mayo Clinic Number—August, 1929) 208 pages with 72 illustrations. Per Clinic year (February, 1929 to December, 1929.) Paper, \$12.00; Cloth, \$16.00. Philadelphia and London.
- PHYSICAL EXAMINATION AND DIAGNOSTIC ANATOMY.—By Charles B. Slade, M.D., formerly Chief of Clinic in General Medicine, University and Bellevue Hospital Medical School, New York. Fourth Edition, thoroughly revised. 12mo of 196 pages with 43 illustrations. Philadelphia and London: W. B. Saunders Company, 1929. Cloth, \$2.00 net.

REGULAR MONTHLY MEETING OF THE GREENVILLE COUNTY MEDICAL SOCIETY HELD AT THE GRILL, WOODSIDE BLDG., MONDAY, NOVEMBER 4, 1929.

This meeting, which was held in the form of a joint banquet with the Dental Society, was called to order by the President, Dr. J. G. Murray at 8:10 P. M. with eighty-four physicians, dentists and guests present.

The invocation was offered by Dr. E. W. Carpenter.

Following the banquet, our first visiting speaker was introduced, Dr. Samuel L. Silverman (D. D. S.) of Atlanta, Ga., who made a splendid address on Impacted Teeth, Hare-Lip and Cleft Palate. Dr. Silverman first stated that the power of growing teeth may be likened to that of growing roots, calling attention to the fact that a growing, impacted tooth could produce a great deal of pressure on surrounding structures. These impactions are frequently undiagnosed, because of the neglect to take X-rays and the result is that the patient goes from office to office until someone thinks about this important diagnostic procedure. Cystic formations often result from impacted teeth, and the lips may become numb from actual severance of the mandibular nerve by the abnormal placement of the tooth. Symptoms may also arise from unerupted teeth. Fractures of the mandible may also result from the great pressure exerted by an impacted tooth. Dr. Silverman, then made another plea for more X-raying of these suspected conditions.

Cleft Palate and Hare-Lip.

Dr. Silverman mentioned that there was a great tendency to hare-lip and cleft palate in South Carolina children, but offered no explanation. In dealing with cleft palate only, he recommended that operation be delayed until after the eighteenth month. If the cleft is through the gum, operation should be performed immediately, just as soon after birth as possible as there is little or no nervous shock to the patient during the first hours of life. The mortality from this operation in Atlanta and Chicago is only 2 per cent.

Dr. Silverman then mentioned, in conclusion, that a great deal of care should be used in the removal of impacted teeth, and that brute force should never be resorted to.

This very enlightening address was profusely illustrated with appropriate lantern slides.

The President, then introduced as our second visiting speaker, Dr. Kenneth M. Lynch of the Medical College of the State of South Carolina, Charleston, who gave us a very masterly discussion of Protozoan Diseases of the Mouth. He called attention to the fact that the mouth was the most abused cavity of the body considering the great variety of foods ingested, the temperatures at which they are ingested, the mechanical and

traumatic irritation of the buccal mucosa, the abuse of the tooth-pick and tooth-brush, the powerful muscles of mastication, and the great likelihood of a break in the lining of the mouth. Dr. Lynch then stated that there were only two protozoa that cause pathology in the mouth, namely the endamoeba gingivalis and the trichomona buccalis.

The amoeba is present in the mouths of the majority of people who have passed middle life. Its life is very short. It is the first known animal parasite discovered and since it has been discovered and re-discovered a number of times. Emetin and ipecac are of no real value in the treatment of amoebic infections. Stovarsol is of greater value than any other known drug and should be tried in all cases. This infection is spread by personal contact, common drinking cups, etc. The amoeba lives in the recesses of the gums below the margins, causing varying degrees of pyorrhoea, is no scavenger as was formely believed but lives off of live and dead leukocytes and red blood corpuscles. Dr. Lynch stated that the loosening of the teeth in the sockets might be due to the amoeba getting its food from the inner lining of the gums, excreting nucle-proteins, rich in phosphorus, which in turn unites with the calcium of the bony lining of the alveolar sockets to form the "tartar" of the teeth.

The Trichomona is also present in pyorrhoea, also in 40 per cent of mouths in persons over thirty years of age. Dr. Lynch discussed this organism very briefly, explaining that the amoeba is the more important protozoan.

There being no further business the meeting adjourned at 10:30 P. M.

Irving S. Barksdale, M.D., Secretary.

RIDGE MEDICAL ASSOCIATION MEETS

The Ridge Medical Association, as guests of the Ridge Ladies Auxiliary, held its regular meeting in the lovely home of Dr. and Mrs. James Crosson Monday evening, October 21, 1929.

Promptly at 7:10 o'clock, in spite of the inclemency of the weather, these eminent men began assembling. Immediately upon entrance to this most spacious and comfortable home, (especially suited for functions of this kind) they found their environments entirely changed.

The exchange of handclasps, the most kindly reception was purely indicative of Shakespeare's 'great welcome which makes a merry feast;' the hospitality which is characteristic of these good people.

Going into their business session interest was centered chiefly upon topics of Meningitis and Carbuncles. Especially fortunate was the Association in having as its honor guest Dr. J. C. Harper of Greenwood. Dr. Harper talked most interestingly and instructively on Nutrition, referring especially to the proper food for school children.

The sound of chimes caused a change in the program and each betook himself to the dining room.

Hall'oween was manifest throughout the home—dainty cards, bowls of beautiful sunburst dahlias—and who knows but that this merry making may have discovered the future destiny of some one.

While partaking of a most nutritious and well balanced feast short speeches by various ones added to the enjoyment of the occasion. Another feature which was greatly appreciated was violin solos rendered by Dr. G. R. Westrope, Lexington County health physician. Dr. Westrope is master of his instrument and produces from it most meelingly the music from his soul.

Various committees were appointed for the Association by its president, Dr. O. P. Wise.

This meeting was well attended and the next meeting will be held in Batesburg to which the Legislative delegations from the three counties will be invited.

The Association unanimously voted their thanks to Dr. and Mrs. James Crosson for the use of their home, to Dr. Halper for his address, and to the auxiliary for the excellent supper.

The Auxiliary also had an interesting business session. Sketches of the lives of some of the doctors were read. A committee was appointed to complete this work and get it in proper form for the scrap book which our State president requested them to do some months ago.

Desirous of doing something to relieve suffering humanity, the Auxiliary voted to donate as liberally as possible to the Woman's building now being erected at State Park.

A committee was appointed to get up a program appropriate for Yuletide season which will be rendered at the next meeting in Batesburg.

Dr. D. M. Crosson has recovered and has resumed his work.

Dr. J. S. Black of Florida was here to see his father who is quite ill this week.

The Journal

OF THE

South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Acceptance for mailing at special rate of postage provided for in Sec. 1103 Act of October 3, 1917, authorized August 2, 1918.

Annual Subscription, \$3.00

EDGAR A. HINES, M. D., F. A. C. P., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE

J. H. CANNON, M. D., F. A. C. P., Charleston. S. C. PEDIATRICS

R. M. POLLITZER, M. D., Greenville, S. C OBSTETRICS AND GYNECOLOGY

R. E. SEIBELS, M. D., Columbia, S. C. UROLOGY

W. B. LYLES, M. D., Spartanburg, S. C. ROENTGENOLOGY

T. A. PITTS, M. D., Columbia, S. C. PATHOLOGY AND BACTERIOLOGY

H. H. PLOWDEN, M. D., Columbia, S. C.

SURGERY

C. B. EPPS, M. D., Sumter, S. C. EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M. D., F. A. C. S., Charleston, S. C. DERMATOLOGY

J. RICHARD ALLISON, M. D., Columbia, S. C. GASTRO-ENTEROLOGY AND PROCTOLOGY

W. T. BROCKMAN, M. D., Greer, S. C.
NERVOUS AND MENTAL DISEASES

E. L. HORGER, M. D., State Hospital, Columbia, S. C.

MEDICAL RESERVE CORPS

COL. J. E. DANIEL, Med. Res. Greenville, S. C.

EDITORIAL

THE HOLIDAY SEASON COMES AGAIN

Elsewhere in this issue the President of the South Carolina Medical Association calls attention in an admirable way to the splendid progress made by the South Carolina Medical Association during the year. The tone of the President's letter to the members throughout the State is optimistic and inspiring. Dr. May sees continued progress during the coming year and extends cordial Christmas greetings to every doctor in the State. We wish to emphasize these sentiments and comments by our distinguished President. He has been indefatiguable in his efforts to bring about an enthusiastic spirit for a more united and a larger organization. All of the other officers have endeavored to cooperate to the fullest extent. The Association has prospered in all of its departments. The Journal has been favored by more scientific papers worthy of publication than in any year for a long time. These contributions constantly reflect a much better educated profession and a desire on the part of its members to give the benefit of their investigations to the scientific world. The weaker County Societies in several sections of the State have been organizing mergers which is in line with the trend of the times in the business world. This plan appears to work well so far. The District meetings have been extraordinarily successful.

The large city societies continue to have splendid meetings well attended. As we approach this glad season of the year we are inclined to feel pretty well satisfied with the scientific progress of the medical profession but there are economic problems looming on the horizon pressing for study and solution. Intensive effort will surely point the way to the light. We join the President in extending most hearty felicitations to every doctor in South Carolina.

CONFERENCE OF SECRETARIES AND EDITORS OF STATE JOURNALS

One of the most potential and inspiring organizations is that of the Secretaries of State Medical Associations and Editors of State Medical Journals which meets at the headquarters of the A. M. A. each year. The Secretary-Editor attended the meeting this year, November 15-16 in Chicago, having missed only one meeting since the inception of the Conference some twenty years ago. South Carolina has been repeatedly honored in an official capacity and on the programs at different times. About twentythree years ago Dr. Walter Cheyne, Secretary at that time of the South Carolina Medical Association interested himself in a get together of the official family of State organizations at the annual meetigs of the A. M. A., Dr. Cheyne was elected the first President. The meetings were small and largely social in character. In time the meetings were held irregularly. Then the idea of holding the meeting in the magnificient A. M. A. headquarters in Chicago met with favor and the organization put on a permanent basis. Untold benefits have been derived by the members since this plan was inaugurated. Each year the most urgent problems before the medical profession are discussed. The Secretaries and Editors come in intimate contact with the officials of the A.M. A. as well as the personnel of the headquarters itself. There are some five hundred employees at the headquarters building and numerous headquarters of councils and departments including a colossal publishing business. These annual pilgrimages with the exchange of ideas add tremendously to the efficiency of the Executive Officers of the State Medical Associations.

UNDULANT FEVER

One of the special features at the Charleston meeting this year was the interest shown in the recent discovery of Malta Fever in our State. We are not in position to estimate the exact number of clinical cases in the State since the first case was reported by Dr. Cooper early in 1928. It is probable however that the number is considerable and possibly on the increase. The disease appears to be essentially a small town

and rural problem. It is interesting to note the results of tests made by our State Board of Health Laboratory as follows:

Br. abortus tests from November 1, 1929, to September 1, 1929:

Date	Positives	Negatives	Total
11-1-4-30	33	154	187
5—1 - 8—31	36	204	24 0
	60	358	427

It is certain that the disease is rapidly assuming a position of first importance in the medical literature of the world. The disease thus far has baffled the skill of the most astute observers as to its prevention and treatment. It is a disabling entity of serious proportions lasting from a few weeks to months or years. It is no respecter of persons. Some of its shining marks have been our most brilliant laboratory workers in many countries. South Carolina doctors may well spend several years in further investigations. An admirable Summary appears under the head of Current Comment in the Journal of the American Medical Association, November 9, 1929 as follows:

"Either undulant fever is rapidly increasing in this country or, as is perhaps more likely, our knowledge of the occurrence of this disease is making rapid strides. Last year in the United States 367 cases were recorded and it can scarcely be doubted that many more escaped record. Diagnosis is by no means simple apart from the agglutination test, the symptoms being readily confounded with those of typhoid. During the twelve months from April 1, 1927, to April 1, 1928, all blood sent for the Widal test to the Danish Serologic Institute was examined for aggiutination of Brucella abortus. A postive aggrutination in a dilution of 1:100 was found in more than 10 per cent of the specimens thus submitted from 2,150 patients. Wherever routine laboratory search has been made a surprising incidence of tne disease has been discovered. On the other hano. in Great Britain, where the seventh human case was only recently recorded interested physicians are demanding that blood tests be made in all cases of pyrexia of unknown origin. Even the "undulant" character of the fever is not to be re-Among forty-five cases lied on for diagnosis. reported in New York State during the last year, it is stated that in no less than sixteen cases the disease was not undulant in character. The fact that two thirds of the victims were men is considered a 'striking feature' of this report; it is characteristic of the disease, however, that the incidence should be higher in males than in

females. In the Danish experience males outnumbered females by 160 to 49. Hardy reporting on the same disease in Iowa, records ninety-eight males to twenty-seven females. Of twenty-seven cases reported recently in Schleswig Holstein, twenty-one were in males. All observers are agreed that the disease is much more common in middle life than it is in childhood or old age. Since old and young, male and female, are alike exposed to the hazard of drinking raw milk, the excess morbidity of middle aged men may be perhaps related to the occupational hazard to which attention has already been drawn. Of the twentyseven patients in Schleswig Holstein, ten were farmers or farm laborers, two bailiffs, one a veterinary surgeon, one a physician, one a slaughterer and twelve followed other occupations. Clark has pointed out that there are really two types of human undulant fever in this country: one due to infection with Brucella melitensis A, which is usually caused by drinking raw milk, and the other due to Brucella abortus, which is contracted also in other ways, such as by removing a cow's placenta or by killing pigs. A specific treatment of this disease is not yet available. The use of serums has proved disappointing. Vaccines have given more encouraging results according to recent reports from the continent. In particular, an antigen prepared from dried Brucella abortus has seemed efficacious in a small number of cases. In this country Hoffman has suggested the use

of acriflavine hydrochloride, which he feels has shortened the duration of the disease in some of his cases. All attempts to shorten this tedious and exhausting infection deserve encouragement. Until more experience has been gained, however, symptomatic treatment directed chiefly against fever, pain and the secondary anemia of the later stages of the disease is the method of choice."

BUREAU OF PUBLICITY FOR STATE HEALTH DEPARTMENT

We publish elsewhere in this issue letters of approval of the proposition to establish the Bureau of Publicity in the State Department of Health. The Legislature will soon convene and it is highly important that every County Society in the State hold meetings with the members of the Legislature to inform them about the necessity of such a Department. In the event that this plan cannot be carried out the Legislative Committee of each County Medical Society should be instructed to keep in touch with the delegation as the Bill proceeds through the Legislature. This is one of the chief measures sponsored by the State Medical Association and it should have the enthusiastic support of the entire profession.

PRESIDENT'S PAGE

By C. R. May, M. D., President South Carolina Medical Association

After visiting quite a number of medical societies in different sections of the state, I am delighted with the prospects of Greater Organization, which I have been earnestly trying to effect since the beginning of my administration. We have had the aid and support of the members, Councillors, and other officers of the association, and especially the services of our capable and efficient secretary, Dr. Hines.

The meeting of the Tri-county Medical Association, Abbeville, Greenwood and Laurens, was a splendid success, and will make a strong and useful organization. There were interesting papers read and friendly associations. This will insure increased mem-

bership. The meeting was held at Abbeville.

I attended the fifth district society at Rock Hill a short time ago. The attendance was very large, with visiting physicians from Charlotte and other sections of the up country. They had a very attractive program, and were enthusiastic and anxious to increase their membership and friendly associations. They entertained hand-

somely with a splendid dinner.

Our sixth district medical association, The Pee Dee Medical, met at Florence last week. This society has always been active and is the second oldest medical society in the state. The attendance was good and the papers very instructive. The Florence County Medical Society entertained with a big dinner in the beautiful library building. They are wide awake and I am sure will have a large increase in membership.

The prospects of having one of the best meetings the South Carolina Medical Association has ever had are excellent. The Scientific Committee has been very active in its work of getting up an unusually attractive program. They were extremely fortunate in securing such distinguished men as Dr. Morgan and Dr. Park to address us. Florence being about the center of the state, and with the good highways we now have, it will be easily accessible to people living in any part of the state. I am sure that we will all enjoy this meeting, for everything is being worked out with the determination to make it one of the best meetings in the history of the association.

At the Charleston Meeting, Dr. Tyler of Greenville, Chairman of the Committee on Public and Instruction, read a paper on public health matters, and a committee was appointed to advise the best method to approch the Legislative mind, and they suggested that each county society have a meeting once a year at which public health measures be stressed, and to ask their Senators and Representatives to attend this meeting so that they might be fully conversant with all activities concerning public health measures. I hope that each county society will comply immediately before the legislature convenes. The Public Health and Instruction Committee after studying the matter for two years and consulting with some of the officers of the South Carolina Medical Association advise that we put on a Department of Health office, in other words, a publicity bureau of the State Board of Health. If we are to keep up with the advance of general health measures, as some other states are now doing, we should get squarely behind and heartily support this movement.

Medical Economics is a subject that is being discussed at present more than any other throughout the medical world. There perhaps has never been a time in civilization when medical men play as important a part in the world's progress. There perhaps never has been a time when the economic conditions have been so greatly disturbed as now. There is no conflict between the ethics and ideals of medicine with the business side of medicine. All doctors are not good business men. Few of them are, but the laborer is worthy of his hire, and there should be a definite business program instituted by every doctor on just as sound business principles as successful banker would conduct his affairs. Those who can must pay, those who cannot are not expected to pay. It is necessary for our own personal welfare and the future of our profession, that the economic side of medicine be discussed. This should come up for free discussion in the county societies. In order for every doctor to know the status of this question, it is necessary that he belong to and attend his county society meetings. If we as doctors and members of organized medicine do not look after what concerns us, someone or some agency will sooner or later take it up and look after and manage it for us. Our indifference is bringing about in a very insiduous way a tendency toward State Medicine or some group control of our affairs and activities. By belonging to our county societies and discussing our economic problems we can stem the tide that is slowly but suerly turning toward control of our profession by other than medical men. I am looking forward with a great deal of interest to the report of our recently appointed committee on medical economics.

Christmas is not far off so I will take this opportunity to wish for each and every one of you a Merry Christmas, a full pocket-book, a good digestion, a con-

tented mind, and the ability to make your loved ones happy.

ORIGINAL ARTICLES

THE RECTAL ADMINISTRATION OF QUININE IN THE TREATMENT OF MALARIA

Hallie Clark Rigby, B.S., M.D., Cecil Rigby, B.S., M.D., Spartanburg, S. C.

In reviewing the literature for treatment of Malaria, I have not found the method suggested above, however it may have been reported before.

The method of administration of Quinine seems to vary with different authors. Quoting from Dr. Reed on the subject of administration, this statement is found. "Never give Quinine under the skin or into the muscle." Other authorities advise against the administration of Ouinine intravenously, giving as their reason that any Intravenous administration is not without an element of danger, and also as an important reason the fact that Quinine given intravenously only remains in the circulation about two hours, and what is desired is to have some quinine in the blood continuously during the period of treatment. Intravenous administration is recommended by some authorities only for acute cases, however all seem to agree that administration of quinine by mouth is always a safe and effective procedure. Upon the supposition that the two methods of administration mentioned above, namely Intravenous or Intramuscular administration, are not as good as administration by the Intestinal route, has been based this report.

In cases of Malaria, where these exists marked nausea and inability to retain even fluids by mouth, the intravenous or intramuscular method of giving Quinine would seem to be the only available methods. Keeping in mind the disadvantages of both these methods and also realizing that the patients are often dehydrated from continued vomiting, and need fluid in any case, it was decided to dissolve the Quinine sulphate or hydrochloride in normal salt solution and give as a rectal drip to patients affected in this manner. In the case mentioned

below 30 grains in 24 hours were given with 1000cc of normal salt solution, and apparently a large amount of quinine was absorbed, as the patient complained constantly of "ringing in her ears," while under treatment a year ago 15 grains by mouth did not cause that sensation. We have also tried dissolving the quinine in distilled water and adding glucose to this solution to be used as a rectal drip. The quinine seems to be absorbed just as well in this solution as in normal salt solution, and there is the added advantage of the glucose to give nourishment to a patient who has been unable to retain food for several days.

The following is a report of a case in which the above method was used with apparently splendid results. The method had been used on a number of other cases during the past year with equally good results. In every case the temperature after the first 24 hours of treatment has been lowered, so that on no day after treatment has the daily highest temperature reached the height of the temperature before treatment.

Mrs. 11. G. White, female, married, age 20, a resident of S. C. Family history, negative. Past history—patient has had usual childhood diseases, but otherwise has had excellent health up to the time of first pregnancy. First and second chill stillborn, third child was delivered alive by Caesarean section in February, 1926, the fourth child by Caesarean section in Nov., 1927. The appendix was removed at the first operation. Convalescence was uneventful each time. In March 1925 patient was in the office for a routine examination, no special complaint except had not felt as well as usual. The examination was essentially negative with the exception of the blood examination. This showed a slight secondary anaemia, a leucopenia and several Tertian Malarial parasites. The patient was treated for two months at that time with quinine and in the fall of 1926 and 1027 she was given quinine again to prevent further trouble. At no time during this time did the patient have an acute attack of Ma-

laria. On October 9, 1928, patient was taken suddenly with a severe chill. The temperature at this time was 104, and the patient had marked nausea and vomiting. The chill was followed by profuse sweating and severe headache. The physical examination at that time was as follows-Patient is a well nourished woman, lying in bed looking very ill. flushed, skin moist and hot to touch. Temperature by mouth 104, pulse 96, blood pressure 130/00. Head examination reveals no tenderness over sinuses or over mastoid region. Eyes —pupils react to light and accommodation, regular, equal, extra ocular movements normal. Nose-No obstruction to nasal breathing on either side. Ears—No tophi present, drums have normal appearance. Mouth-Teeth in good condition, tongue slightly coated, pharynx slightly injected, tonsils atrophic and anterior pillars slightly injected. Neck—No enlargement of glands in the neck. Thyroid isthmus and both lobes very slightly enlarged. Chest-Expansion of both lungs equal and normal. No dullness on percussion in front or back. No rales heard. Heart—Not enlarged, no thrill or shock felt over precordial area. No murmurs heard at apex or base. Sounds at apex regular, rate faster than normal Pulse at wrist easily felt. Abdomen-No masses felt. No rigidity felt on palpation over abdomen. Mid-line scar of old operation seen. No tenderness over gallbladder or kidney region. Reflexes normal, no stiffness or paralysis of arms or legs. Pelvic Examination—Negative. Rectal Examination -Negative. Urinalysis shows sp. Grav. 1022, faint trace of albumin, no sugar. Miscroscopic examination shows few w. b. c. and epithelial cells no casts. Blood Exmaination-R. B. C. 4,000,000. w. b. c. 5000 Hb. 60%. P. M. N. 58% P. M. E. 1% P. M. B. 1% L. L. 5% S.1 20% L. M. 8% Tr. 7%. No anisocytosis or poikilocytosis, platelets increased, erythsocytes paler than normal, several tertian malarial parasites seen. The patient was given quinine by mouth as soon as the blood was found to contain malarial parasites, but it was soon found that the patient was unable to retain it. The next day the chill was repeated and the

temperature rose to 104.5 with no lessening of the nausea. The patient was taken to the hospital and a rectal drip of normal salt and quinine was given by rectum. Ten grains of quinine was dissolved in each 500 cc. of normal salt solution and three 500 cc. solutions were given in 24 hours, making 30 grains of quinine given in that time. After the first day 15 grains were given to each pint and two pints given in 24 hours. Glucose was added to the solution for nourishment. On admission the temperature was 104, on the second day it was 102. On the last day the temperature reached a height of 99.4. After 6 days of treatment the nausea was so much better that the patient could take quinine by mouth and retain it, so the drip was discontinued. The patient left the hospital at the end of the second week and continued to take quinine for two months. She is now in very good condition.

It might also be added that this method of rectal administration of quinine has been used to advantage in several surgical cases, in which the patients have had a sudden flare up of old Malaria, following an operation and it has been thought wise not to upset the stomach by giving quinine by mouth. In no case was quinine given unless the Malarial parasite was firrst demonstrated in the blood.

Conclusions

Incases of Malaria where the patients are unable to take quinine by mouth, this method is recommended because of the following reasons:

- 1. To give quinie by rectum is probably safer than by either intravenous or intramuscular injection.
- 2. It is much easier to give quinine by rectum than by the above methods as the treatment may be given by the nurse without the presence of the doctor.
- 3. The rectal drip offers a good method of giving fluid to a patient dehydrated from continuous vomiting while at the same time providing a medium through which the quinine may be administered.

*ACUTE RHEUMATIC INFECTION IN CHILDREN

By F. K. Shealy, M. D., Clinton, S. C.

The term rheumatism is the most carelessly used word in medical nomenclature. There is no condition in which there is redness, pain and swelling of joints and muscles that this term has not been applied at some time or other. The modern conception of the word limits to denote a particular symptom complex produced by a systemic infection and its resultant pathology. The ideal toward which we must strive is not altogether the early detection of the manifestations of the rheumatic infections but the ability to detect and circumvent the conditions of diathesis, environment or infections which singly or in combination produce acute rheumatic infections.

The prevention of rheumatic infections therefore in children and its adequate treatment, are matters of the gravest importance if we are to rear a future race of strong men and women. Investigators at Lyman Hurst Heart Clinic found that 75 to 80% of acquired organic heart disease gave a history of rheumatic infection or chorea in childhood. The problem of heart disease rest almost entirely with the problem of rheumatic infection. English investigators after prolonged study find that 2/3 of the heart cases that come under their observation commenced between the ages of 5 and 15, the period of rheumatic incidence. The problem as can be seen of heart disease rests almost entirely with the problem of rheumatic infections. The causative factor seems to pick out the endocardium very much at T. B. picks the lung tissue.

Opinions as to the etiology are not quite so clear cut as they were twenty years ago. Doubts are being thrown on the causal connection between the presence of the Streptodiplococcus and the disease. Bacteriologists have not given us very definite conclusions. The presence of a discoverable pathogenic organism is not, in the present state of our knowledge, quite sufficient explanation. There must be a secondary factor besides the tonsils, and it

must be widened to include a disease tendency, unfavorable surroundings, heredity, insufficient clothing, poor and improper food, intestinal trouble, bad teeth and sinus involvment. When the rheumatic virus is once introduced, it may survive in the tonsils, even in a small left in piece or in the heart even after the primary attack is over similar to the spirochete or plasmodium which will remain in their hiding places ready to light up on slight provocation. The infecting agent has as a port of entry the lymphatic tissues of the pharynx. are usually discreet but may be conglomerate. disease seems to be more frequent near bodies of water than inland. One attack does not confer immunity but renders the patient more liable to subsequent attacks. The rapid swelling of the joints with a prompt subsidence suggests that this disease may be caused by a toxin rather than a micro organism. The streptococcus plays an important part as a secondary invader at least but we may have to look for a filterable virus or an ultra miscropic organism. In its manifestations of joint pains and tenderness it resembles serum sickness.

A soft systolic mumur at the apex may be the first symptom to attract attention. child early shows the influence of the toxin. It is unstable mentally and physically. Little is required to throw it off balance. The skin is of a fine waxy hue and the child sweats in patches while other parts of the skin is dry. They are liable to attacks of asthma, vomiting, gastralgia, gastro intestinal disorders. They are incapable of sustained effort and soon show signs of cardiac arrythmia with complaints of dyspnea on slight exertion. The mental instability of these children is clearly evidenced by the constant association of chorea, with rheumatic infections. The earliest signs of rheumatism may be very slight in the extreme and difficult of detection. These symptons may be so slow and so insidous yet so surely progressive in character that even when fairly well developed they neither give the child discomfort nor the parents anxiety and may be accidentally discovered when the child is under observation for other causes. These attacks may come on slowly with a slight pain in one or more joints with some swelling but little or no redness, slight elevation of temperature, 100-101.

^{*}Read before the Third District Medical Association, Laurens, S. C., 1929.

The arthritis may attack several joints in succession. The ankles, knees, small joints of the feet and wrists. There may be fleeting pains in the muscles yet not severe enough to keep the child in bed. Growing pains located in the ham string muscles behind the knee may cause only a slight limp lasting a few days.

An attack may also be ushered in by a mild grade of tonsillitis, drowsiness, impairment or even loss of appetite, abdominal pains more or less vague in character with a febrile reaction of variable intensity. The muscle fascia may be involved without joint involvement. sterno cleido mastoid is frequently involved coming on suddenly and often accompanied or followed by a heart murmur. The rheumatic chain as Osler termed it has many dissimilar links the connection of which with rheumatic fever is not always easily established. We can name among these links chorea, tonsillitis, rheumatic skin affections especially rheumatic nodules, acute rheumatic poly arthritis and rheumatic carditis.

The blood picture is that of a secondary anemia which is hard to combat. There are few diseases that produce so great a destruction of hemoglobin and red blood cells in the same length of time as rheumatic infections.

Aschoff in 1904 described his submiliary nodules in the heart muscle which seems trust-worthy histologic findings at least in cases dying in the acute stages. In cases of long standing, however these nodules undergo fibroid organization.

Rheumatic fever has great invasive powers and may produce lesions in almost any part of the body. The infection is generalized with protean manifestations in muscles, fascia, tendons, joints, serous membranes, the respiratory tract, the brain and the heart. Reinfection frequently occuring and lasting over long periods of time. It is a fairly common disease most frequent between the ages of five and fifteen. It is, however, a most serious disease because of its predilection to attack the heart muscle and its great tendency to recur and each recurrence to add to cardiac lesions.

Heart involvement may occur within twentyfour hours after the onset of the disease. The toxin of rheumatic infection has a marked relaxation effect on the heart giving rise to a loss of tone and dilatation of its chambers. There may be a lasting aortic as well as a disappearing mitral as far as ausculation is concerned. Double heart involvement seldom occurs during the first attack. The joint involvement may be so slight and trivial as to even escape attention. These severe cases are characterized by dyspnea, precordial pain and high temperature. These symptons may be preceded by other signs as loss of weight, slight daily rise in temperature, increased pulse rate, diminished exercise tolerance.

In 1108 cases of rheumatism observed by Dr. P. J. Poynton carditis occured in 60% of the cases, arthritis in 56%, chorea in 55% and tonsillitis in 30%. In 90% of the school children inspected by Dr. Dobbie where there was a structural alteration of the heart there was a history of rheumatic fever, definite chorea, recurrent pains and repeated tonsillitis.

Rheumatic nodules occur in about 11% of cases. They are pathognomonic and usually occur in severe cases. They are most commonly seen in cases with chronic and recurrent rheumatism who have badly damaged hearts. While these cases do recover, however, these nodules do point to a poor prognosis owing to such a severe type of infection. The histological picture of these nodules is similar to the Aschoff bodies. The nodules may be movable but more often are firmly fixed to tendons and fascia around the joints and on the scalp. They are usually discrete but may be conglomerate. When seen at a certain angle they glisten and feel like grains of rice. They appear in crops and may last for weeks and months having a tendency to recur.

The patient who has had rheumatism should avoid getting wet or chilled or subjected to damp living quarters. They should undergo a gradual hardening process. All forms of intestinal fermentation should be treated and the body protected by warm clothing.

During the past few years there has been engendered in the minds of medical men an unbounded spirit of antagonism toward the tonsil. The pendulum has been swinging toward extreme radicalism, holding the tonsil responsible for all ills of childhood and adolescence. If the virus or what not is lodged in the heart, synovial membrane or the subcutaneous nolul-

es, the patient will have recurring attacks even if the tonsils are removed. The frequency of tonsillitis followed by rheumatism and chorea have led investigators to regard the tonsils as the port of entry and possibly an etiologic factor in rheumatic manifestations. Of 180 cases with their tonsils removed studied by Ingerman and Wilson, they found rheumatic fever as frequent as in the control group. Hunt in a study of 144 cases of acute rheumatic fever in children in Guy's Hospital, London, found recurrences in 53% of 66 cases in which tonsil enucleation had been done and 42% of 78 cases where operation had not been done. This possibly might have been due to the fact that deep in the crypts of the tonsil bacteria harbor. Removal liberate these and light up an attack.

Treatment: The joints may be wrapped in cotton or local applications of Mag. Sulph. lead water and opium or oil of gaultheria. lmmobilization where possible to prevent too frequently handling of painful and swollen joints. Water in abundance and a febrile diet. There is no specific serum. Owing to uncertain etiological factors we have to be content with giving fairly large doses of Sodium Salicylate either alone or in combination with Sodium Bicarbonatte as it tends to oercome toxemia and slows the heart. This should be continued a week or more after the symptoms have abated. Simple follicular tonsillitis is a great power of mischief and removal is justified if they are diseased. Certain suggestions might be offered in the treatment of rheumatism as prompt confined to bed with prolonged rest over a period of three months or more where there is heart involvement and until its rate becomes normal and signs of fatigue are gone. Maintain proper nutrition. Remove foci of infection as bad teeth, diseased tonsils and sinus trouble before the heart becomes crippled. Careful daily auscultation of the heart. The use of blisters or the ice cap over the heart at the least indication of trouble. Prevention of relapses by the establishment of hospitals for cardiac cripples as for T. B. cases, thus healing as far as can be the heart lesions by rest and regulated exercise. The horizontal position which reduces blood pressure and cardiac action. Resistance should be built up in the tissues to overcome

the tendency to future attacks. After puberty the tendency diminishes.

Out of all the common diseases of childhood, the most to be dreaded is scarlet fever and rheumatic infections while not always killing yet frequently maining for life.

*THE USE AND ABUSE OF PROLONGED IMMOBILIZATION IN PLASTER-OF-PARIS AND OTHER SPLINTS

By Austin T. Moore, M.D., Columbia, S. C.

The orthopedic surgeon necessarily comes in contact with a great many "bad result" cases. By no means are all bad results due to negligence or lack of skill on the part of the attending physician. Particularly is this true in regard to fractures. Many patients are not cooperative. Either through ignorance or failure to appreciate the dangers entailed, they neglect to follow through the after-care as instructed. Many do not return for redressing, physiotherapy, etc., because of the fact that they feel they are financially unable to pay for the visits. Some have an idea that all that is necessary after the fracture has been reduced, is to keep the splints on from four to eight weeks or more, and everything will be all right. It is just for such reasons as this that each physician attending a fracture case should be particularly careful to warn the patient that if a cast or splint is kept on continuously for a number of weeks, everything will not be all right in the majority of cases.

Because plaster-of-Paris bandages can be easily made and kept, and practically any type of simple fracture can be handled by a plaster cast, this means of treatment is very commonly used; but because of the difficulty of bivolving a plaster cast, frequently it is left on until ample time has elapsed for bony union to become perfectly solid and no further support is felt necessary. This treatment may frequently lead to unsatisfactory results and normal function may be delayed for a long time, or never return. Even if there is perfect anatomical reposition of fragments and x-rays can scarcely demonstrate the site of fracture, if the

^{*}Read before the Second District Medical Association, Saluda, S. C., July 17, 1929.

patient has not the same functional use of the part just as before the accident, he is as a rule, dissatisfied and may even institute legal proceedings.

There are a few cardinal points in the treatment of fractures that can be carried out anywhere the observance of which will lead to better end results. First among these is the full understanding on the part of both physician and patient that when the fracture is reduced, the treatment has just begun. An axiom that would be well for all physicians to remember is that a properly reduced fracture become increasingly more comfortable. If swelling increases or pain persists and grows worse after retentive apparatus is applied, it is a sign that something is wrong. That patient never be given anodynes or opiates and allowed to go along until the acute period is over. An x-ray picture should be made, if this has not already been done, to assure that the fragments have been properly reduced, the part should be elevated high enough to reduce the swelling, or the dressing should be completely removed to determine if there is any obstruction to the normal circulation. There are two ways in which the circulation can be impeded -one by internal, the other by external pressure. In internal pressure, the circulation is shut off by pressure within the part itself. The bones have a certain space about them limited by the skin and fascia. Within this space, course all of the venous and lymphatic channels. When bones are fractured and bady displaced, this space is encroached upon, and the return flow of blood and lymph is shut off, causing oedema and swelling. Massive hemorrhage with blood extravasation throughout the soft tissues may produce internal pressure.

External pressure is produced by a constricting cast or bandages too tightly applied. A splendid illustration of this is seen in forearm fractures. Over the dorsal and ventral surface of the forearm just above the wrist there is a large plexus of veins that can be readily seen when the arm is hanging by one's side, or when a constricting band is placed about it higher up. To shut off both of these venous plexuses would necessarily produce a great deal of swelling, and one of the *best* ways to do this is by using splints with a pad over the upper

fragment on one side, and the lower fragment on the other. Pads such as these are usually superfluous as there is no particular muscle pull to displace a properly reduced fracture in this region. In treating ordinary Colles' fractures, probably more uniform good results would be obtained if we would disregard the fracture after it has been reduced and treat the function of the hand and wrist. A famous Philadelphia surgeon once said that the only dressing necessary after reducing a Colles' fracture is a band of adhesive about the wrist. This warns the patient's friends that something is wrong and prevents them from shaking hands with him too vigorously. The hand is primarily a prehensile organ, and if its grasping qualities are lost, the function of the entire upper extremity is seriously impaired. What good are the arm and forearm if the hand is useless? The chief function of the arm and forearm is to place the hand where it can be used.

Frequently the orthopedic surgeon is called on to treat the hand with all its fingers completely extended, and only a few degrees of motion possible in any of the joints, and this is very painful. Often the thumb and forefinger will not meet, so he is unable to pick up even very light objects. X-rays show diminution of joint spaces with absorption of lime salts about the joints. Inquiry into the patient's history reveals that he has had a fracture, or infection, or tendon laceration of some part of the forearm. The injured part had been placed on a straight splint extending to the finger tips and allowed to remain there six or eight weeks. Sometimes such hands can be completely restored; sometimes they are irremediable. What causes this? Prolonged immobilization and swelling due to internal or external pressure. An exudate is thrown into all of the soft tissues about the joints, producing an agglutination and adhesion of joint surfaces,-which might have been prevented by proper reduction, elevation, removal of constricting dressings or by wet compresses.

Another distressing condition, which may develop in a few hours from tight bandages and never be cured, is Volkmann's ischemic paralysis.

Following fractures of the leg, a frequent

disability is pain in the ankle joint and inability to dorsiflex the foot. In a large number of cases, the foot is put up in its usual relaxed position,—plantar-flexion—the tendo Achilles contracts and the space between the head of the astragalus and tibia is filled. Unless the astragalus is perfectly reduced underneath the center of the tibia in Pott's fractures, a chronic foot strain results. Simply turning the foot into varus will not replace the astragalus directly under the center of the tibia; for this motion is in the subastragalar joint. In Pott's fractures the misplaced astragalus and early mobility demand the most attention. Then the fracture will take care of itself.

The Delbet plaster splint is very useful in certain fractures of the lower 1/3 of the leg. It allows mobility of the knee and ankle joints. The patient begins to bear weight on the fractured extremity within the first week or two. His reward is union, perfect function and return to his occupation much earlier than when a circular cast is used.

Frequently, knees, hips, shoulders or elbows are more or less permanently stiffened after prolonged fixation dressings. Particularly is this true in cases of arthritis, synovitis, and tenosynovitis. Wilhelm's principle of opening joints with an acute infectious arthritis and encouraging active motion during the time the joint is draining is of, great benefit in many cases. Many joints have kept up their function under this treatment which otherwise would have been permanently stiffened and prolonged immobilization been carried out.

Non-union of bone sometimes results after prolonged immobilization. There is a stagnation of the circulation, and atrophy of all of the soft parts. The bone suffers the same change.

One should, as a rule, reduce a fracture as early as possible. The longer one waits, the more difficult does swelling and muscle spasm make the reduction. Swelling alone does not militate against reduction. The idea of waiting for swelling to subside has largely been discarded. One of the best ways to reduce swelling is to secure a perfect reduction of bony fragments.

All fractures should be seen from four to six hours after reduction and again the next

day. Burning pain over bony prominences should suggest pressure sore. The pain may subside in a few hours, but the nerve end organs have become paralyzed, and on removal of the splint, a deep, well-developed pressure sore is found. Practically all fractured extremities should be elevated for forty-eight hours or more after reduction to prevent swelling. In most cases, some form of physiotherapy can be begun in a few days after reduction. If the dressing is a plaster cast, this can be bivalved. Usually, this is better accomplished at the time the cast is applied, when the plaster has just begun to set and can be cut easily. The upper portion of the plaster is later removed, the parts baked and gently massaged. If the splint is of metal or board, the bandages can be removed and the baking and massage carried on while the part rests on the splint. It is surprising how quickly the swollen, indurated, congested soft tissue will subside under this treatment and how comforting it is to the patient. This is continued every few days, and soon the parts can be removed from the splint, the fragments held supported by the hand while motion in the joints is begun. The socalled "relaxed motion" should be used at first, i. e., while all the muscles are relaxed, the joints are passively flexed and extended very gently and only up to the point of pain.

As soon as the slightest union has begun to occur, active motion should be started. It not only keeps up the tone and strength of the muscles, but stimulates the circulation so that swelling and stiffness subside and bony union takes place more rapidly than if the part is kept immobilized for a long time. In the treatment of a great many factures, by the time the cast or splint is removed, the functional use of the part should be back to normal except for diminished muscular strength.

To cut down the long period of disability after splints have been removed is of tremendous value. The patient can return to his occupation sooner and a great deal of time and money saved. An elaborate array of equipment is ideal, though not absolutely necessary. If infra-red heat lamps, diathermy, etc., and the services of an expert masseur are not available, a basin of hot soapy water and cocoanut oil for massage will enormously add to the like-

lihood of a satisfactory end result. Heat, before the massage, can be had from any common heat source.

If the attending physician is willing to give a little more of his time, and the patient is anxious to co-operate in every way, the percentage of good results in fractures or other cases that require splinting, can be definitely increased.

*SOME OBSERVATIONS ON THE FIRST REPORTED CASES OF MALTA FEVER IN SOUTH CAROLINA

By E. A. Hines, M.D., F.A.C.P., Seneca, S. C.

The story of the investigations of Malta or Undulant Fever is fascinating in the extreme. To say that it is a new disease is probably a misnomer, inasmuch as the Hippocratic writings indicate its presence 450 B. C. It is a new disease entity in certain phases of its development in the Western Hemisphere and only discovered in South Carolina since this Association met at Columbia a year ago. From a survey of scientific programs and Journals the world over it would appear that Malta Fever is at the present time one of the most acute medical problems before the clinician, the laboratory man, public health agencies, child welfare organizations, the veterinarian, and the colossal animal and milk producing industries. Even armies and navies are not exempt. The disease is slowly but surely invading nearly all the States of the Union according to the most reliable sources of information. 157 cases from 24 States were reported to the U.S. Public Health Service in 1928 (as shown by the chart). The disease has been endemic on the Undulant Fever-United States, 1928

 States
 Cases reported, 1928

 Alabama
 —

 Arizona
 6

 Arkansas—(a)
 —

 California
 11

 Colorado—(b)
 1

 Connecticut
 4

 Delaware—(a)
 —

 District of Columbia—(a)
 —

 Florida—(a)
 —

Georgia—(a)	8
Idaho	
Illinois	3
Indiana—(b)	
lowa	44
Kansas—(a)	10
Kentucky—No Report.	
Louisiana	
Maine	2
Maryland	8
Massachusetts	
Michigan	8
Minnesota	13
Mississippi	
Missouri	1
Montana—(a)	I
Nebraska	
Nevada—No report.	
New Hampshire	
New Jersey Not reportable.	
New Mexico—No report.	
New York	10
North Carolina	
North DakotaOhio	3
Oklahoma	
Oregon	9
Pennsylvania—(c)	3
Rhode Island	
South Carolina—(a)	I
South Dakota—(c)	I
Tennessee	2
Texas—No report.	
Utah—No report.	
Vermont	
Vorginia—(a)	I
Washington	I
West Virginia	
Wisconsin	
Wyoming—(a)	
Total	157
(a) 11; (b) 9 months; (c) 10 months.	
Mexican border for nearly half a century	
was epidemic at Phoenix Arizona in I	
That particular section of the U.S. is a g	great

Surgeon Rear-Admiral Sir Percy Bassett-Smith, a distinguished British naval officer, in the Jour-Royal Normal service Oct., 1927,

goat raising territory. Briefly in historic re-

trospect:

^{*}Read before the South Carolina Medical Association, Charleston, S. C., May 8, 1929.

calls attention to the fact that: "during the Crimean War Malta Fever came into prevalence among the troops and that in 1850 Marston gave an accurate account of the disease including the post mortem appearances. In 1886 Bruce discovered the causative organism which was abundantly present in the spleen. A commission of naval, military and civil officers under the advices of the royal society with Sir David Bruce in charge worked out the details from 1904 to 1906. This definitely proved that in the Island of Malta and the Mediterranean area the disease was almost entirely due to the ingestion of infected goats milk, the animals at the time showing no evidence of disease, and as they were allowed to perambulate the streets and were milked from door to door the incidence in the general population rose high; it also explained how it was that so frequently cases admitted to hospital with any disease in which milk was used in the diet contracted the fever so that in the early part of the 20th century cases admitted for fracture, etc., went out with undulant fever and operations were possible put off for fear of the disease."

Perhaps most American physicians gave little thought to Malta Fever until Col. C. F. Craig of the U. S. Army in 1905 reported a case in a nurse who had been engaged in nursing soldiers in the Washington, D. C. Hospitals. This was the first case reported in the U. S.. Col. Craig made the following observation just as pertinent for us here today as it was then:

"I am convinced that a careful study, by use of the Widal test and the agglutination reaction with Micrococcus melitensis, of many of the cases of obscure continued fevers which are prevalent in this country will result in the demonstration that Malta fever is by no means a rare disease in the warmer portions of the United States, and that many of the so-called anomalous cases of typhoid fever are in reality, instances of infection with the organism of Malta fever."

Interest lagged however until 1918 when Miss Alice C. Evans of the U. S. Public Health Service Laboratory demonstrated the definite relationship of the organism causing Malta fever in goats and the organism causing contagious abortion in cattle known as the Bang bacil-

lus. Following swiftly these experiments were confirmed in many countries. World wide interest however was excited when Chester S. Keefer of Baltimore reported in the Bulletin of the Johns Hopkins Hospital, 1924, a case of the transmission of the abortus infection of cattle to man. Speedily cows milk and the possible infectivity of other animals for man became an important issue.

To emphasize how rare the disease has been considered to be in the western world, it is significant that at one of those delightful evening staff meetings of the Mayo Clinic, May 18, 1927 Dr. W. A. Plummer reported a case of Malta Fever and said only three cases had been diagnosed there up to that time. Again in that vast domain to the north of us the Dominion of Canada, the first case was reported in 1928.

What may the average South Carolina doctor expect to find in pursuing the investigation in his own practice as to the relative frequency of Malta Fever? The situation has been very well defined in the American Journal of the Medical Sciences for September, 1928, by Kern, as follows: "There is no characteristic clinical picture of abortus infection. Clinically indistinguishable from its twin, Malta fever, it must, like that disease, be described as an infection with an irregular course and an indefinite duration. This extreme variability and the simulation of half a dozen other diseases probably accounts for a frequent lack of its recognition. This variability of the disease cannot be too greatly stressed: Few physicians in this country, especially in the more northern sections have, ever seen a case of Malta fever. They either have no conception of the disease at all, or they remember vaguely that Malta fever is also called undulant fever because, they think, of its "characteristic" undulant fever curve. A perusal of the varied disease pictures presented by even this small series of cases will serve to convince the doctor of the futility of attempting to diagnose the disease on a clinical basis alone. What is needed is a wide spread clinical consciousness of the disease, and a high index of clinical suspicion, that will lead physicians to ask routincly for an abortus agglutination test in all cases of undiagnosed fever."

l shall endeavor to outline rapidly the result of my studies thus far of Undulant Fever in this State. I wish to give due credit to Dr. Ernest Cooper, Superintendent of the South Carolina State Sanatorium for having reported the first case. This was a child of about nine years, admitted to the Sanatorium early in 1928 and running an indefinite fever course over a period of about five months. The agglutination test on this patient was made at the Hygienic Laboratory in Washington and found positive in dilutions up to 1:320. Our State Board of Health Laboratory recovered from the blood a pure culture of the Br. abortus.

Case 2: A case occurred in my own practice as follows. On November 3, 1928, I was called to see a young white man, age 28, Chief of the Fire Department and shoe-maker by trade. I found him sitting by the fire and with a temperature of 102. He said he was "smoke sick" from fighting a fire in a large brick building two nights before at which time he vomited, had a chill and headache. This was at the time of the influenza epidemic so I diagnosed it as a case of influenza as 1 was not familiar with "smoke sick" cases and put him to bed. The fever varied from day to day with no other symptoms of importance and little discomfort. At the end of a week or ten days that diagnosis was abandoned and the possibility of typhoid fever considered. The Widal, however, was negative. Then the question of tuberculosis arose inasmuch as on investigation he had been steadily losing weight, his appetite had decreased and he had not felt quite well for a month before I saw him. This was soon ruled out. He was constipated for most of the time but had a diarrhea for three or four days. He had at no time any respiratory symptoms. He ran this irregular fever for three or four weeks. On December the 4th the State Board of Health Laboratory reported Br. abortus positive 1:100 and 1:200. He was sick three months and lost Repeated tests show positive 18 pounds. abortus yet. One was made as I was leaving for this meeting, May 4, six months after my first visit to the patient. Fighting fire probably percipitated his very acute symptoms.

Case 3: Reported by Dr. W. D. Senn, of Newberry.

The doctor was called to see a colored man.

(mulatto) age about 56, on February 1, 1929. The patient was complaining of discomfort in legs and arms especially in joints and back in the left lumbar region over the left kidney. He had a cough, fever 103.5 and was constipated. The case was diagnosed influenza. At the end of two days the fever subsided only to return after two days more and go through the same course with joints more affected and the patient more anxious in appearance. This condition lasted for about three weeks during which time Dr. Senn was considering other diagnoses such as typhoid, malaria, etc., until he decided he did not know just what the patient had so he sent the blood to the State Board of Health Laboratory which was reported positive for Br. abortus infection. This patient was sick about six weeks and had the following complications:

Perinephritic abscess and abscesses in both ears.

Case 4: Reported by Dr. Hugh Smith of Greenville and through whose kindness 1 was enabled to make a personal investigation:

A white female nurse about middle age living in one of the prosperous mill villages, where she worked, became sick November 3, 1929, running a slight temperature but not feeling very badly, worked for a week, when she became generally sore and felt as if she might At this time, she had a have rheumatism. temperature ranging from 99-1/5 to 101. Her physician found a reddened throat and the patient had some cough. Nothing definite was determined and she was put to bed on November 10 for observation. She was confined to bed for five weeks, during which time her temperature ranged from 99 to 101. The most striking symptom was that usually each morning and afternoon, the patient felt quite cold as if she were freezing. She had no chill, the sensation of coldness would last two or three hours in the morning, and would be followed by a rise in temperature; this would be repeated late in the afternoon with a second temperature rise in the early evening.

After five weeks, she remained afebrile for three weeks when exactly the same symptoms recurred except that the freezing sensation occurred only once a day and her temperature only reached 99 and a fraction each afternoon. This continued for 16 days when she again became afebrile for seven days; then again fever occurred for two days, following which she ran a slight afternoon rise about every third afternoon, January 15th.

During this time she remained quite constipated, had a good deal of gaseous indigestion and at no time, was there any diarrhea. Her widals were negative; the urine and stools were negative for ordinary tests; total white and differential counts were within normal limits on repeated observations. The patient lost about 40 pounds from the first of November until the last of January.

Case 5: Reported by Dr. E. T. Kelley, Kingstree.

Age 17, Sex Male. Single. White. Past history usual diseases of childhood and occasional attacks of acute malaria. Well, robust. Mode of onset, headache, malaise, general aching and chilly feeling, constipation, anorexia for couple of days followed by moderate chill and sharp rise of temperature.

Fever of Undulant type for two weeks usually lower in A. M. and highest around 8 o'clock P. M., temperature around 101 A. M., 103 P. M., but never leaving patient entirely, and ended by lysis.

Pulse ranged from 88 to 100 and dicrotic, otherwise normal. Respiration slightly accelerated with rise of temperature. Gastro intestinal tract normal throughout with tendency to gaseous formation, moderate constipation. Eruption appeared about the seventh day over entire body but more profuse over abdomen and chest, resembling color that of Typhoid fever. Macules were all sizes and generally three or four times that of Typhoid fever, on first appearance, as pin point and increasing in size very much like some cases of measles. Kidneys normal except slight trace of albumin during first week. Leukocytes 4680, polymorphonuclear, 66, small lymphocytes 34. Widal reaction negative throughout, Brucella Abortus positive.

There had been no contact with goats or swine. Source of milk supply determined and had been used raw. The Veterinarian made or had made a proper examination of cows and found to be negative. There was no history of Abortus but one cow had had fever when the

calf was two weeks old, and was supposed to have had slight sepsis following delivery.

Case 6: Reported by Dr. H. S. Black, Mary Black Hospital, Spartanburg. Male thirty-four years old, white. During the month of October, 1928 patient complained of malaise, tired and exhausted feeling and loss of appetite. Had no headache, nose bleeds, nor other symptoms. Had to force himself to work, when previous to this he delighted in working. In November he went home from work complaining of fever and sweating. Went to bed and called his family physician who treated him for influenza. At the end of a week Dr. Black saw him in consultation and with the following history:

For one week patient had been complaining of profuse sweating, mostly in the afternoon and night and during twenty-four hours it would be necessary to change the bed linen and his night shirt from ten to twelve times as it would be drenched. His temperature would vary from 99½ in the morning to 102 and 103 in the afternoon. He had no headache but slight coryza and slight redness in his throat. He had no other symptoms nor signs that one could elicit. Dr. Black was suspicious of undulant fever and sent a specimen of the patient's blood to the State Board of Health Laboratory in Columbia to be examined. The report was positive. There was one thing that was particularly noticeable, that he was not dull nor stupid as is seen in typhoid fever and did not complain of any pain or discomfort except the profuse sweating. He was confined to his house for three weeks and after being out of bed one week, returned to work. Dr. Black examined him on March 7, and found him in good physical condition. His weight at the time of his sickness was 165, height 5 feet, 101/2 inches, blood pressure 122/80, pulse slow and temperature varying from 901/2 to 103. It is interesting to note that the patient had typhoid inoculation while in service in 1917, and Widal made at the Mary Black Clinic during his illness was positive, which was accounted for by the fact of his inoculation and not his present illness. Widal made at the State Board of Health Laboratory in Columbia, however, was negative.

Case 7: Reported by Dr. P. E. Assey, Georgetown.

Negro man, twenty-three years of age. The chief complaint was pain in the right lower quadrant, indigestion and fever.

Patient stated that the present illness began about March 1, and that he had been running a continuous temperature, had a complete loss of appetite, was nauseated and vomiting all that he forced down. At this time the patient had a temperature of 102(F). He showed tenderness in his right lower quadrant to deep palpation.

During the following week the temperature continued to range between 101 and 102 never below 101 degrees. He then began to vomit bright red blood and his stools became tarry black. After these hemorrhages the temperature dropped to 98, but soon went back to 102. At this time Dr. Assey sent a specimen of blood for a Widal, suspecting that this was a case of typhoid fever. Widal was negative, Wassermann four plus, and the blood was positive for undulant fever in dilutions up to 1 to 400.

Diagnosis of Malta fever, gastric ulcer, and syphilis was made. Patient remained ill for about two more weeks and finally recovered.

Case 8, reported by Dr. E. L. Horger, Medical Director, State Hospital, Columbia.

Race—Negro.

Sex—Female.

Age-21.

Address—Columbia, S. C.

Anamnesis Obtained From Patient March 5, 1929

Family History:

Father and mother living—both are enjoying good health.

"They have been separated since I was a small child." One brother living and well. None dead. No sisters living—two sisters dead. Died when they were quite young.

Constitutional Disorders: No history of tuberculosis, cancer, etc., occurring in the family.

Mental Diseases: No history of mental disorders or nervousness.

Drugs and Alcoholics: No history of drug or alcoholic habitues.

Past History:

She states that she was born September 21, 1908, in Orangeburg County. When a small child the family moved to Columbia and have lived here ever since.

School history: Started to school when about 7 years of age, quit in 1924. She was about 17 years old when she left school. She states that she was in the 10th grade.

Occupation: Since leaving school she has been cooking and washing. July 25, 1927, she started working as attendant at the State Hospital and has been there ever since.

Religion: Member of the Methodist church. Social Condition: Single. Never married. Has one child living, four years of age— in good health. No history of her having had any miscarriages.

Menses: Started when a young girl—regular and gives no trouble.

Diseases of childhood: Gives history of having had mumps and whooping cough when a child. No other illness.

Serious Illness: "I have never had a serious illness in my life." She denies having had typhoid fever, pneumonia, rheumatis, scarlet fever, small pox, chicken pox. States, "My health has always been good.

Epilepsy: No history of fits, spasms or peculiar spells of any kind.

Operation: April 2, 1928, appendectomy was performed. She stood the operation well and apparently made an uneventful recovery. *History of Illness*:

"I have always enjoyed good health. Never had a serious illness in my life until I took sick before Christmas. My usual weight was about 127 pounds. On the 15th of August I went on my vacation to Raleigh, N. C., to visit a friend and remained there until I returned home on August 28th, and started working again as an attendant on August 20th, and worked until October 21st. Several days before I quit work I didn't feel well. Suffered with headache, pain in the back of neck and back. I stayed at home Monday, and Tuesday I came to the hospital which was October 23, and went to bed sick. I did not feel well for about ten days before going to bed. I suffered with headache, my eyes ached, and I had pains in my back which extended up to my neck. My appetite was not good. I was nervous, restless at night, and did not sleep well. Part of the time when I was sick I could not remember what happened. On December 1st, I was allowed to sit up a little, continued to improve and on December 15th, I went home, resting for about 15 days, during which time I improved, and I returned to work on December 31st, feeling well. Since my return to work I have not lost a day, been feeling well except several weeks ago I suffered several days with headache, and my eyes felt weak and painful. This only lasted a few days."

How are you feeling now? "I feel good—have gained in weight. The other day I weighed about 135 pounds."

Course of Illness:

Duration, October 30, 1928 to December 16, 1928. Total duration of time in bed, 1 month and 16 days.

Physical Summary:

Negative findings except at the beginning of her illness she had rhinitis, slight cough and was somewhat undernourished.

Temperature:

First week it was a gradual rise, reaching 1052/5 by mouth. Second week—temperature ranged from 101 to 104. On the 15th day, temperature went below normal. From this date on, her temperature resembled a septic infection, ranging from normal and below normal, to 1034/5. Pulse and respiration was in proportion to the temperature except on the 15th day, when there was a disturbance of the heart with an increased pulse rate which responded to cardiac stimulants. During the illness there was very little sweating.

Blood Examinations

There was a marked leukopenia with an increase in the lymphocytes and a corresponding reduction in the polymorphonuclears.

Wassermann and Kahn-Negative.

Malaria—negative throughout the illness.

Widal—negative, after repeating the test. *Spinal Fluid*:

Examined No. 17, 1928.

Wassermann-Negative.

Globulin—Negative.

Sugar-Negative.

Pleocytosis—No cells were found.

Urinalyses:

No abnormal fiindings.

On December 3, 1928—Brucella abortus, positive, 1:100 and 1:200.

On December 10, 1928—Brucella abortus, positive in dilution 1:200. Reaction sharp. Slight agglutination in dilution 1-4. Symptoms

The illness was characterized by continuous fever with a deafness, explained by the toxic condition involving the eighth nerve. She developed rather marked mental symptoms, especially periods of confusion and delirium which came on early in the disease and lasted about four weeks. At night she was restless and didn't sleep well. Headache and neuralgic pains, especially of the lower extremities were present.

Comments on the Etiology

As to the source of infection this patient took her meals at the hospital and at times was eating at home. She was also away on her vacation just prior to her illness. It was impossible to determine definitely the source of infection. She drank milk daily.

Case 9. Reported by Dr. G. R. Westrope, Conway.

A negro gril about twenty-one, the doctors cook. She worked irregularly for several weeks saying she was tired. She seemed well from appearances. In October, 1928 she began to have fever. The doctor visited her and found her in bed, perspiring profusely, temperature 102, pulse 120. The physical examination was negative. She had been chilly, not a definite chill however. Blood smears postive for malaria. Got some better on quinine. Later same condition returned, fever, etc. on November 5, Widal, State Laboratory reported negative, Wassermann four plus and postive for Undulant fever. The doctor promptly went to Columbia to see the Director of the State Laboratory about it. She was given Neosalvarsan and other anti-syphilitic treatment. Later blood more postive for Undulant fever. The case fell into other hands for some months. Upon receipt of my letter the doctor went to see her, found her walking around the yard, stated she felt well, had a temperature of 104.3/5, coughing. The doctor found T. B. She came of a tuberculous family and Dr.

Westrope's opinion was that the Undulant Fever invited the tuberculous infection.

Under date of March 13 following an inquiry in regard to two positive undulant fever reports, Dr. J. H. Gibbes of Columbia wrote that for several weeks he had been having agglutination tests for undulant fever done on all of the patients that he examined and later would make a report on the result. The two cases had no fever whatever which brings up an interesting and very important question as to why such reports are found occasionally all over the world. Many observers have noted that the blood may be positive from a few months to ten years and that the patient may never have had a definite history of undulant fever. This, however, we will not discuss now.

Summary

- 1. The pathology is obscure—the paucity of human material being so evident.
- 2. The disease will tax the diagnostic acumen of the ablest clinician.
 - 3. It is an important public health problem
 - 4. The treatment is symptomatic.

DISCUSSION

Dr. W. K. Lewis, State Veterinarian, Columbia, S. C.: Generally speaking, the premature expulsion of the ovum before viability occurs is referred to as an abortion and may be produced by various diseases of the mother, the fetus, membranes, traumatism, or influences of various natures. The term we wish to discuss, however, is one that according to latest terminology is referred to as "infectious abortion" and includes those cases which occur in otherwise healthy mothers as a result of external infection producing inflammatory lesions of the uterine mucous membrane, of the fetal membranes and the fetus, and is produced by a specific organism-Bang's abortion bacillus or Brucella Abortus. While this disease occurs in cattle, horses, sheep, swine and other mammalia, yet we shall confine this discussion to the condition as it is found in cattle, for it is now generally accepted that the infection may be transmitted to the human through the medium of milk.

History. For many years investigators and research workers considered the disease to be of an infectious or contagious nature and the correctness of this view was established as early as 1876 by Franck. However, it was not until 1896 that the specific organism was discovered by Bang. His results were confirmed later

by Theobald Smith, Schroeder, Cotton, Mohler and others, also the modes of infection were established and likewise methods were developed for diagnosis.

Pathogenesis. Natural infection with the abortion bacillus occurs in the great majority of cases through the digestive tract, however, may be produced experimentally by artificial infection. The organism possesses special predilection for embryonic tissues of the fetal and maternal placenta as well as of the fetus, the udder and corresponding lymph glands.. They may remain dormant there for a long time or multiply slowly, however, they are not found in other organs-nonpregnant uteri are not suitable for their propagation. If on the other hand, they enter the wall of the mucous membrane of the pregnant uterus following a natural or artificial infection they commence to multiply principally in the epithelia of the embryonic chorion tufts and then spread between the chorion and uterine mucous membrane. As a result the tufts or cotyledons undergo a fatty degeneration followed by necrosis which gradually loosen their connection with the maternal placenta cells and finally in most instances an expulsion of the fetus and its membranes occurs.

Following abortion the bacilli are eliminated with the normal discharges which may be usually demonstrated for a period of three weeks. In one instance, however, they were found for fifty-one days by Schroeder and MacFadyean.

On the other hand the organisms continue to remain in the functioning udder and may be conveyed from this location through the lymph or blood stream into the developing membranes in the event of a new impregnation.

Abortion bacilli were first found in market milk by Schroeder, Cotton and Mohler of the U. S. Bureau of Animal Industry and their investigation showed that infected cows eliminate bacilli with their milk as they found them in 12 to 14½ samples of the market milk in Washington. Evans in Chicago found the abortion bacilli in 30½ of examined samples and as high as 50,000 organisms per cc.

The bacilli may appear in the milk several months before abortion and remain in the same for two to four months and in one exceptional case was reported as late as seven years by Schroeder. The organisms may also be present in the milk of cows which have been aborted. At the same time, the milk has a normal appearance and the tissue of the udder fails to disclose any abnormal conditions.

Anatomical Changes. Briefly, the placenta shows a fibrinous purulent exudate on the cotyledons with a subchorial edema and accompanying hemorrhagic areas. In the fetus there is a marked bloody serous infiltration of the subcutaneous and intra muscular connective tissues also a hemorrhagic inflammation of the gastro-intestinal canal and internal organs.

Infection. In artificial infection experiments the incubation period varied between 33 and 230 days. In natural infection abortions occurred in newly purchased cows introduced into infected herds in from 70 to 128 days. It has been found however, that if infective material is fed only once agglutinins may appear in the blood after a period of one to five months, while if it is fed regularly two or three times a week, the agglutinins appear more quickly, in some instances within two weeks of the first infection.

Cows are most likely to abort in the fifth or sixth month of pregnancy, however, animals which are pregnant for the first time as a rule abort at an earlier period of gestation than do older ones or those which have previously aborted.

Diagnosis. The diagnosis of infectious abortion may be substantiated by the above mentioned anatomical changes of the fetal membranes and fetus, as well as by the microscopical demonstration of the abortion bacillus. The serological tests, agglutination or complement fixation methods, are employed for detecting the presence of the infection in herds. Both methods of testing give corresponding results and for practical purposes the agglutination test owing to its simplicity is the method commonly used.

Comment

As to the prevalence of infectious abortion in cattle in the State of South Carolina, we have no definite figures. However, we do know that it does exist to a greater or less extent in some of the dairying and breeding herds.

Just another word, if I may. In my discussion I spoke especially of cattle, but we should not forget that the infection may be contracted from swine. It has been found in various parts of the United States and of Europe, and it has been shown that fifty per cent. of the strains studied are of the porcine type. We do not want to indict our foster mother, the cow, entirely.

Dr. H. M. Smith, Director State Board Health Laboratory, Columbia, S. C.: The naming of bacteria is still a rather haphazard proposition. Some bacteria bear the name of their host, some the name of their discoverer, some the name of the disease they cause. The name of the germ of undulant fever bears about all the traffic allows, Brucella melitensis variety abortus, sometimes still farther extended to the designation of the particular strain. Also, this germ is indifferent as to how it looks under the microscope. You can't tell whether it is a coccus or a bacillus. This difficulty is side-stepped by christening it Brucella after Bruce, its discoverer. The Brucella doesn't often kill. To kill the body that feeds it would not be good business,-not biologic adaptation. And an excellent adapter it is, for it often hangs on for years in the body of its host.

Some of us seem to be naturally immune to undulant fever or to have acquired an immunity to it without having had any noticeable symptoms of the disease, especially when children, our blood giving a positive reaction to the Brucella. Those of us who are reactors may have been drinking infected cow's milk all our lives, more or less, and in consequence a little thing like Brucella melitensis var. abortus holds no terrors for us.

On account of the wide-spread occurrence of Br. abortus infection (contagious abortion) cattle in South Carolina, the presence of the living organisms in the raw milk of infected cows, and the increasing number of cases of undulant fever reported from practically every state in the Union, the State Board of Health Laboratory last fall began doing this agglutination test in all negative whole blood or serum specimens sent to the Laboratory for the typhoid reaction. Dried blood specimens are unsuitable. Physicians in the State have as yet made very few requests for the test and most of the positives so far found have been only "pick-ups." The test is just a Widal test, cultures of Br. abortus being used as theantigen instead of the typhoid bacilli for agglutination by the serum. We use the killed cultures, killing them by heat, on account of the very serious danger of laboratory infection from handling the live germs too promiscously. The cultures that we use in the test were obtained from Dr. Lewis' Laboratory and are the mixture of two strains of Br. abortus that he finds give sharp reactions with the infected cows in South Carolina. The test is done macroscopically and ia requires from 24 to 48 hours for completion.

Agglutination by serums in dilutions of 1 to 100 or higher is regarded as diagnostic of Br. abortus infection or of immunity to the disease. This laboratory standard, though subject to error, must yet be regarded as more reliable than reports of undulant fever on the basis of clinical evidence only. However, I do not know which is the worse of two great nuisances, the clinician whose opinions are infallible or the serologist whose tests are infalliable. Final diagnosis should be made only when clinical and laboratory findings agree. The reaction shows up about the 5th day or later, increases during the course of the disease, and decreases following convalescence, often finally disappearing. During the last six months we have had only 187 negative whole blood Widal specimens suitable for the Br. abortus test, 33, or 17.6%, being found postive scattered throughout the State, from Dan to Bersheba. The finding of 33 positives does not necessarily mean 33 cases of undulant fever. Some may be reactions of immunity only, some may possible be technical errors. During the same period we examined 1039 specimens for typhoid and paratyphoid reactions, finding 197, or 19.1%, positive. We have had only one opportunity of making blood cultures directly from the patient, Dr. Ernest Cooper's case at the State Sanatorium last year, Br. abortus being isolated in pure culture.

Dr. Hardy of Iowa who is making a nation-wide investigation of the distribution of recognized undulant fever via the questionnaire rout informed me recently that the number of cases in the U. S. before 1925 were 116; in 1925, 22; in 1926, 34; in 1927, 194; in 1928, 560. This indicates not necessarily an increased rate,—perhaps just better diagnosis.

I am quite sure that there are a lot of more or less obscure fever cases in the State, improperly labeled typhoid, malaria, influenza, tuberculosis, rheumatism, and what have you. It is strongly advised that undulant fever be at least suspected in these cases and that 3 or 4 cubic centimeters of whole blood be sent to the State Laboratory for the agglutination test. This may help in the diagnosis, if not in the treatment. Most cases occur probably in the small towns, villages, and the country and will be seen by the general practitioner. He can be of great aid in clearing up the situation by increased use of his State Laboratory facilities.

The subject of undulant fever is of ever growing importance, and its presentation by Dr. Hines today has been very able and instructive. Furthermore, like the present day woman's dress, it was just long enough to cover the subject and short enough to be attractive.

Dr. Ernest Cooper, Director State Sanatorium -State Park S. C.: I shall not attempt to discuss Dr. Hines' paper in detail, but I think it may be of interest to report the case of which mention has been made. The patient was a girl nine years of age who had been in the sanatorium for several months. Prior to coming to us, and while in another institution, she had a continued fever of unknown orgin. During the meeting of the state medical association last year I was notified there was a case of typhoid fever in the children's department. The patient was transferred to the adult department for observation. On study of the disease, the characteristic temperature curve, and the appearance of the patient, and the white cell count of 12,200, I was soon convinced it was not typhoid fever, although the blood test showed a positive paratyphoid reaction. With the temperature running 103, 104, or sometimes higher, the patient did not seem sick; she was bright and lively, alert, and did not show the stupor and anorexia that characterize typhoid fever with a temperature of that height. Other symptoms and signs suggested undulant fever-e.g., enlarged spleen, the peculiar sweats, chills, and constipation. I conferred with Dr. H. M. Smith, but he was not prepared to do the blood test for undulant fever, so a specimen of the patient's blood was sent to the Hygienic Laboratory at Washington. This was reported positive in dilution 1:320 for Brucella melitensis, variety abortus. The fever continued for ninety days, when it became practically normal and remained so for several days. I laughingly remarked to an intern that if there were no relapse she was cured. The next day the fever rose again and continued ninety days; a total of one hundred and eighty days. The treatment was entirely symptomatic; we gave enemas for constipation and forced water and food, so that, notwithstanding the long attack of fever, she did not lose weight.

Dr. H. M. Smith made cultures from her blood and urine. The former yielded an organism with the cultural and morphological characteristics of Brucella abortus.

Dr. B. Kater McInnes, Charleston, S. C.: At the last meeting of the American Public Health Association held in Chicago I do not think there was any disease on which more discussion was brought forth from a variety of states by variety of people. I personally feel that preventive measures in the rural districts would probably be more essential than in the larger cities, because we know in the larger cities (or in a great many of them) pasteurization is coming into vogue; and pasteurization seems to destroy the infection. But in the smaller places, where little attention is paid to sanitation and milk is produced under the most insanitary conditions, I think there is danger of prevalence of this disease. After the meeting in Chicago the dairy association passed a resolution providing that all certified-milk herds should be free of abortus as well as tuberculosis.

One thing that would probably help the person who has cows, especially in rural sanitation, is holding out the cows that have an abortion, whether they abort from one cause or another, until all the discharges clear up.

We had one case in Charleston we thought was a case of Malta fever, a boy on a dairy farm. After he stayed in bed for about three months we decided it was not that, but for a while it certainly looked like a case of undulant fever. He had the typical fever, and he had been drinking milk.

It is probably in the rural districts that you are going to find most of it.

Dr. T. N. Dulin, Clover: I think from an economic standpoint and from the standpoint of health this is one of the most important subjects that has been brought before the medical society since I have been attending it. If we consider what this means from the standpoint of

health, that we might have undulant fever all over the United States or all over the world, for that matter; if we consider what amount of money that might take out of the pockets of the people, it is almost incredible. It seems to me that we ought to do all in our power to curb it, and I have not the slightest doubt that there are many more cases than we suspect.

Dr. Hines, closing the discussion: I have nothing more to add. I do not know much about the subject, but I am happy if I have pointed the way. I am especially grateful to Dr. Lewis for coming down here and for his efforts, and I also thank the other gentlemen.

Last night I had a report from Dr. Abel, of Chester, of a case in the child of a brother doctor. I had that in my pocket this morning but did not refer to it.

BUREAU OF HEALTH EDUCATION

By Chas. O'H. Laughinghouse, Secretary and State Health Officer, Raleigh, North Carolina

Acting on the conviction that "no one can be expected to worship Christ who has never heard of Christ," the State Board of Health undertook some years ago to organize a Bureau of Health Education. This Bureau has functioned long enough to demonstrate its usefulness. It has so deported itself as to earn the sympathy and interest of the public press in the State. Its articles are accepted by the various papers and there is never a day but that something in the way of health education is not spread all over the State through the press. The bureau of Health Education has enlightened the people with relation to the State's health laws and the necessity for enforcing them in such a way as to make the people respect and obey such laws of sanitation and health as the State has on its statute books. It has made the people come to see the value of reporting births, deaths and such diseases as the State Board of Health has made reportable. In addition to this, the bureau of Health Education sends speakers to various parts of the State and to the schools to discuss with the people the different health subjects which are necessary to the prevention of disease and the prolongation of life. It publishes every month a health bulletin which comes to the address of the people in the State for the asking. It gives special information concerning particular health topics that individuals, organizations and communities may become interested in. It gives out general information by letter and through the press concerning disease prevention and healthly living.

Its educational pamphlets, publications and papers are disseminated through the State for the asking and they have done much to bring about a more emphatic health conscience in the State than existed before the bureau began to function. It carries on an advisory correspondence with relation to health subjects and there is constantly in operation throughout the rural communities in the State an ambulatory moving picture show that teaches and treats the question of health in such a way as to interest both parents and children in the great subject of health conservation. It also carries on a tonsil clinic conceived and operated for the purpose of health education. It furnishes all types of health education pamphlets to the various county health departments within the State and comes to the assistance of these departments whenever assistance is asked for.

The public schools, both municipal and rural, disseminate its pamphlets on communicable disease, personal hygiene and healthly living. Through its department of Maternal and Infant conservation it mails letters to pregnant women and to the mothers of children, giving them such information as is conducive to their health, comfort and safety.

The State of North Carolina has come to appreciate this particular activity of the Board of Health so profoundly that it has in the past and we believe in the future it will appropriate a sufficient sum of money to continue its activities, feeling that the appropriation allocated to Health Education brings most satisfactory results.

SOCIETY REPORTS

PROGRAM MEETING OF THE PEE DEE MED ICAL ASSOCIATION HELD AT FLORENCE S. C., TUESDAY, NOVEMBER 12, 1929.

10:00 A. M. Meeting called to order by the President, Dr. Douglas Jennings, Bennettsville, S. C. Reading of Minutes—Dr. S. C. Henslee, Sec'y. Dillon, S. C.

Address by Dr. Charles R. May, Bennettsville, S. C., President of the South Carolina Medical Association.

Address by Dr. M. R. Mobley, Florence, S. C., Councilor Sixth District, South Carolina Medical Association.

Papers

- 1. Cases Presenting Problems in Tuberculosis; Theraphy, Dr. W. A. Smith, Charleston.
- 2. Newer Aspects of Infant Feeding, Dr. J. H. Price, Florence.
- 3. The Management of Normal Obstetrics, Dr L. R. Kirkpatrick, Bennettsville.
- 4. Syphilis of the Nervous System, Dr. O. B. Chamberlain, Charleston.
- 5. The Modern Treatment of Syphilis, Dr. L. J. Ravenel, Florence.
 - 6. Pellagra, Dr. R. L. Gardner, Chesterfield.
- 7. The Management of Diabetes, Dr. W. R. Mead, Florence.
- 8. Diphtheria Prophylaxis with Toxoid or Antitoxin, Dr. Paul E. Sasser, Conway.

PROGRAM MEETING OF THE OCONEE COUNTY MEDICAL SOCIETY HELD AT WESTMINSTER, TUESDAY, NOVEMBER 12, 1929.

Order of Business

Call to order.

Reading of Minutes.

Report by Committee on Hospital situation . Scientific Program.

Practical Points in the Management of Obstetrics in the Home. By Dr. W. C. Hearin, Greenville, S. C.

General discussion and questions.

Anomalies of the Esophagus in the New born. Report of a Case with Autopsy. By. Drs. W. C. Marett and E. A. Hines, Jr., Seneca, S. C.

General discussion.

Miscellaneous Business.

Adjournment.

Officers

Dr. T. G. Hall, Westminster, S. C. ____ President Dr. E. A. Hines, Seneca, S. C. ____ Sec.-Treas.

PROGRAM OF THE FIFTH DISTRICT MEDI-CAL ASSOCIATION MEETING HELD AT ROCK HILL, S. C., OCTOBER 31, 1929.

Program-

- (1) Invocation, Dr. A. S. Rogers, Rock Hill, S. C.
- (2) Welcome, Dr. J. B. Johnson, Mayor, Rock Hill, S. C.
- (3) "Remarks," Dr. J. E. Massey, Rock Hill, S. C.(4) "Sinus Disease, It's Diagnosis and Treatment," Dr. H. C. Shirley, Charlotte, N. C.
- (5) "Tonsils and the Young Adult," Dr. Norma P. Dunning, Winthrop College, Rock Hill, S. C.
- (6) Paper (subject unannounced), Dr. J. W. Corbett, Camden, S. C.

THE UROLOGICAL ASSOCIATION OF SOUTH CAROLINA HELD MEETING AT SUMTER. S. C., OCTOBER 29, 1929, 6:30 P. M.

Programme-

Banquet.

Presidential Address, Dr. Jas. J. Ravenel, Charleston, S. C.

"An Interesting Experience with Bladder Stones," Dr. W. S. Judy, St. George, S. C.

"The Symptom, 'Frequency of Urination' and the Value of the Phenol-sulphonephthalein Test in Kidney Diseases." By invited guest, Dr. A. J. Crowell, Charlotte, N. C.

"Ureterocele," Dr. W. B. Lyles, Spartanburg, S. C.

Report of Clinical Cases.

Hugh E. Wyman, M. D., Secretary-Treasurer.

WOMAN'S AUXILIARY

South Carolina Medical Association

OFFICERS

President, Mrs. W. H. Nardin Anderson First Vice-President, Mrs. L. O. Mauldin Greenville Second Vice-President, Mrs. Carl B. Epps Sumter Recording Secretary, Mrs. C. W. Evatt Greenville				
Corresponding Secretary, Mrs. T. R. Gaines Anderson Treasurer, Mrs. J. W. Bell Walhalla				
COMMITTEE CHAIRMEN				
Publicity, Mrs. W. C. Abel Columbia Extension, Mrs. William Boyd Columbia Historical, Mrs. H. M. Stuckey Sumter Hygeia, Mrs. J. R. Miller Rock Hill Legislative, Mrs. M. L. Parler Wedgefield				
COUNSELLORS				
District 1. Mrs. W. W. Wild North Charleston District 2. Mrs. Ernest Cooper, State Park, Columbia District 3.				
District 4. Mrs. F. G. James Geer District5 .Mrs. A. W. Humphries Camden				
District 6. District 7. Mrs. D. O. Winter Sumter District 8.				

COMMENTS AND SUGGESTIONS CULLED FROM SPEECHES AND REPORTS OF DELE-GATES AT THE SEVENTH ANNUAL SES-SION OF THE WOMEN'S AUXILIARY OF THE AMERICAN MEDICAL ASSOCIATION

The Auxiliary has a large and rapidly increasing membership. Every doctor's wife should consider it a privilege to become a member.

Every member of the Auxiliary should give helpful, wise and sympathetic cooperation to her doctor husband.

The State Auxiliaries should take care that their activities do not conflict with the National Policy.

The State Auxiliaries should not affiliate with other organizations. They should cooperate but not affiliate.

The work of the Auxiliary should be distinctive and pertain to the practice of medicine.

Differentiate between charity work and the work pertaining to the prevention of disease.

The Auxiliary should be interested in good housing conditions and proper samitation.

"The Study of Your City, County and State Health Condition" is suggested as a good auxiliary program.

Auxiliaries should have open meetings and invite laymen as guests. They should also have health programs.

Superstition is an evidence of ignorance, and superstition and prejudice are hindering greatly the health education of today.

Give the youth of today proper health education. Early impressions endure.

Auxiliaries should take an active interest in all health laws.

Know your legislative bills and remember every question has two sides; know both sides before you make your decision to work for a bill.

Why do so many fallacious ideas on medicine go unchallenged?

Did you ever stop to think that the economic phase of a doctor's practice is as important as its scientific side?

Some education on the economic side of medicine would not be amiss.

Among the eminent speakers who addressed the Auxiliary Convention were the following: Mrs. Allen H. Bunce of Atlanta, Ga., president of the Auxiliary to the American Medical Association, who presided at all meetings in a charming and gracious manner; Mrs. Charles W. Richardson of Washington, D. C. whose husband is a trustee of the American Medical Association; Dr. M. L. Harris, president-elect of the American Medical Association; Mrs. Morris Fishbein of Chicago, chairman of Revision and By-laws; Mrs. George H. Hoxie of Kansas City, president-elect of the Auxiliary American Medical Association; and Dr. E. H. Cary of Dallas, Texas, chairman of the Advisory Committee of the American Medical Association.



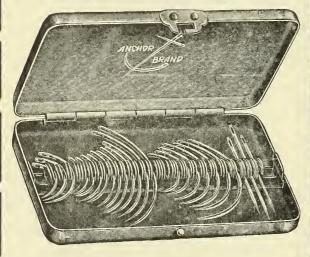
A Needle You can depend on!

Made of American STAINLESS Steel, it will of course, never rust, tarnish or corrode.

But what is even more important, ANCHOR NEEDLES are tougher, sharper and safer than any you ever used before.

You will use it with full confidence that it will perform its functions smoothly, easily and always safely. It will never break or bend in use. Write for

Free Trial Sample



Special Introductory Offer 2 Dozen Anchor Needles \$3.00 with Fine Nickel Plated Case FREE S. DONIGER & CO. Inc.

Makers of KROME PLATE	Surgical Instruments, X-ACTC
Syringes and sole distributors o	f ANCHOR NEEDLES.

S. DONIGER & CO. Inc.
23 East 21st Street, New York City
Send me your special 2 doz. needles in case for which I
enclose \$or \square bill thru my dealer. \square Free Sample.
Doctor
Address
Dealer's Name

DRUG ADDICTS

Drug and Alcoholic patients are humanely and successfully treated in Glenwood Park Sanitarium, Greensboro,, N. C.; reprints of articles mailed upon request. Address W. C. ASHWORTH, M. D., Owner

Greensboro, N. C.

SITUATIONS WANTED

WANTED: Salaried Appointments for Class A Physician in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan. Chicago. Established 1896. Member The Chicago Association of Commerce.

Graduate School of Medicine

.....

The Tulane University of Louisiana Approved by the Council on Medical Education of the A. M. A.

Post Graduate instruction offered in all branches of medicine. Courses leading to a higher degree have also been instituted.

For bulletin furnishing detailed information apply to the

DEAN

Graduate School of Medicine 1551 Canal Street New Orleans, La.



